

United States Senate

WASHINGTON, DC 20510

May 20, 2015

The Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

The Honorable Ernest Moniz
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Administrator McCarthy and Secretary Moniz:

We are writing to highlight the water and wastewater utility sector's ability to play a significant role in reducing energy consumption and greenhouse gas emissions. By investing in energy efficiency measures for water and wastewater utilities, states would benefit from lower water rates, improved infrastructure for economic growth, verifiable energy efficiency improvements, and reduced greenhouse gas emissions. Therefore, we ask the Environmental Protection Agency (EPA) to view such investments as a positive element of a state's implementation plan under its forthcoming Clean Power Plan. In addition, we urge the EPA and the Department of Energy (DOE) to work together to identify which energy efficiency measures would yield the greatest verified reductions in energy use, ratepayer costs, and emissions.

Delivering water and wastewater services is an energy-intensive effort, in which water is treated, pumped to our homes and businesses, and then pumped to wastewater facilities to be treated again. Information about the energy that is consumed in these processes is outdated and fragmented, but the Electric Power Research Institute has estimated that moving and treating water and wastewater uses 2-4 percent of the nation's electricity. And this energy consumption can make up a significantly larger fraction of the energy used on a local or regional scale: water and wastewater utilities are typically the largest users of energy in municipalities, often accounting for 30-40 percent of total energy use.

The energy consumed by water and wastewater utilities can be dramatically reduced through many untapped energy efficiency opportunities. For example, the EPA estimates that potential savings of 15-30 percent are readily achievable in water and wastewater plants, with significant financial returns and payback periods of only a few months to a few years. Moreover, water and wastewater utilities could save \$400 million annually if they reduced energy use by just 10 percent through demand management strategies and cost-effective investments in energy efficiency. Such savings are especially important because they would ultimately be passed on to families and businesses in the form of lower utility rates.

Given the fact that water and wastewater utilities represent a vital sector for substantial energy efficiency opportunities, we believe that investments in energy efficiency improvements would allow states to benefit from lower water rates, improved infrastructure for economic growth, and verifiable energy efficiency improvements. Therefore, we urge the DOE and EPA to work together in identifying which energy efficiency measures will result in the greatest financial returns for utilities and savings for their ratepayers.

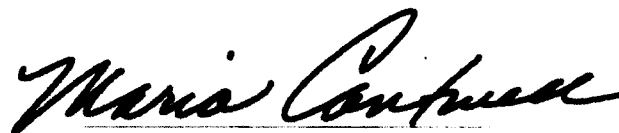
Such investments would also help states reduce carbon emissions from the energy used by water and wastewater utilities, which are estimated to be 45 million tons per year. Thanks to the flexibility provided by the EPA, energy efficiency is one of the tools that states can use to meet their emissions reduction targets under the forthcoming Clean Power Plan (CPP). And we believe that energy efficiency improvements for water and wastewater utilities may be an important component of many state implementation plans for the CPP. Therefore, we urge the EPA to encourage states to include water and wastewater utilities in the development of their implementation plans for the CPP. We also ask the EPA to view energy efficiency improvements at water and wastewater utilities as a positive element of a state's implementation plan under the CPP. Finally, we urge the EPA and DOE to work together in conducting a study to identify uniform measures for verifying energy efficiency savings at water and wastewater utilities.

Thank you for taking our views into consideration and do not hesitate to contact us if we can be helpful in making progress on this important policy issue.

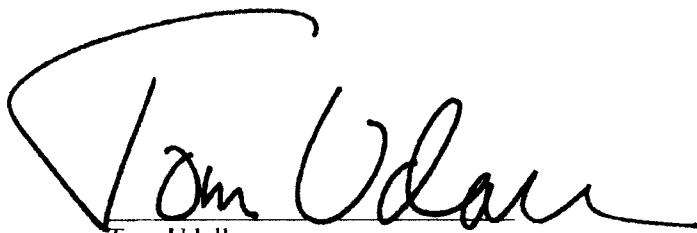
Sincerely,



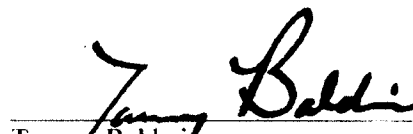
Al Franken
United States Senator



Maria Cantwell
United States Senator



Tom Udall
United States Senator



Tammy Baldwin
United States Senator



Bernard Sanders
United States Senator



Richard J. Durbin
United States Senator



Amy Klobuchar
United States Senator



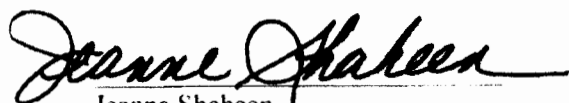
Mazie Hirono
United States Senator



Chris Coons
United States Senator



Martin Heinrich
United States Senator



Jeanne Shaheen
United States Senator

United States Senate

WASHINGTON, DC 20510-2309

July 24, 2015

The Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

The Honorable Shaun Donovan
Director
Office of Management and Budget
1650 Pennsylvania Avenue, NW
Washington, DC 20503

Dear Administrator McCarthy and Director Donovan:

As you finalize the Clean Power Plan, I urge you to maintain the flexibility and strong emissions reduction goals that were proposed in the draft rule for this important regulation under the Clean Air Act. At the same time, I encourage you to consider the early investments that have been made in each state to reduce greenhouse gas emissions. This letter outlines some areas where I request additional clarity in the final rule, in order to achieve the goals of the Clean Air Act without placing an unnecessary burden on states like Minnesota, who have led the way in deploying energy efficiency and renewable energy technologies.

The Clean Power Plan is an important piece of the Administration's Climate Action Plan, which is designed to help slow the effects of climate change. I commend the Environmental Protection Agency (EPA) for proposing a strong goal of reducing carbon emissions from existing power plants by 30 percent by the year 2030, compared to 2005 emissions levels. I also appreciate that the EPA has provided flexibility to the states, by allowing them to achieve their emissions reduction goals through the deployment of end-use energy efficiency technologies. This approach will help states reduce their carbon emissions while simultaneously protecting ratepayers from unnecessary increases in their electricity bills.

But I believe it is important to take into account the early actions that states like Minnesota have taken in deploying energy efficiency and renewable energy technologies. For example, in 2010, Minnesota's energy efficiency resource standard (EERS) went into effect, requiring utilities to reduce their average energy sales by 1.5 percent annually. This policy has proven to be very effective, with utilities either meeting or exceeding their energy reduction goals each year. It has also helped to stimulate the clean energy economy in Minnesota by creating high-paying jobs in the energy efficiency sector. Finally, Minnesota's EERS has resulted in lower energy costs for families, reduced carbon emissions, and a decreased dependence on fossil fuels and foreign oil.

Another area where Minnesota has been a leader is in the deployment of renewable energy technologies. Minnesota's renewable energy standard is one of the strongest in the nation, requiring utilities to generate 25 percent of their total electricity from renewable sources by the year 2025. Currently, 19 percent of Minnesota's electricity is generated from renewable energy projects that were funded by utilities in Minnesota. It is important to note that some of these projects are located outside of Minnesota—in neighboring states and in Canada—which has proven to be an effective approach to generating more renewable electricity for Minnesota while minimizing the price impact on our families, businesses, and industries.

Despite Minnesota's leadership in deploying clean energy technologies, we have one of the most aggressive emissions reduction goals under the Clean Power Plan. One reason for this is that we are not getting enough credit for the early investments made by Minnesota utilities in energy efficiency programs prior to 2012. To ensure that sufficient credit is given where it is due, I encourage you to consider the early actions that states like Minnesota have made to reduce energy consumption and greenhouse gas emissions prior to 2012. In addition, I request more clarity in the final rule about who will receive credit for cross-border renewable energy projects. Finally, it is important to note that any adjustment to state targets should be made in such a way that the overall emissions reduction goals of the Clean Power Plan are maintained.

Thank you for your continued efforts on this important matter, and please do not hesitate to contact me or Ali Nouri (202-224-2846) on my staff with any questions about this letter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Al Franken', with a long horizontal flourish extending to the right.

Al Franken
United States Senator

15-001-2222



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

ADMINISTRATOR
OFFICE OF
INFORMATION AND
REGULATORY AFFAIRS

October 23, 2015

15-001-2222

The Honorable Al Franken
United States Senate
Washington, DC 20510

Dear Senator Franken:

Thank you for your letter to Office of Management and Budget Director Shaun Donovan and Environmental Protection Agency (EPA) Administrator Gina McCarthy about EPA's Clean Power Plan Final Rule, titled "*Carbon Pollution Emissions Guidelines for Existing Stationary Sources: Electric Utility Generating Units*." Director Donovan and Administrator McCarthy have asked me to respond on their behalf.

On May 16, 2015, EPA submitted a draft of its final rule to the Office of Information and Regulatory Affairs (OIRA). On August 2, 2015, OIRA concluded review of this rule under Executive Orders 12866 and 13563. Please be assured that we took careful note of your interest in this rulemaking and considered your comments and concerns.

Thank you again for sharing your important perspective on this rulemaking. If you have any questions, please contact the Office of Management and Budget's Legislative Affairs Office at (202) 395-4790.

Sincerely,

A handwritten signature in black ink that reads "Howard Shelanski".

Howard Shelanski
Administrator
Office of Information and Regulatory Affairs

cc: The Honorable Gina McCarthy

AL-15-000-8333

JOHN BARRASSO M.D.
WYOMING

307 DIRKSEN SENATE OFFICE BUILDING
WASHINGTON, DC 20510
202-224-6431

COMMITTEE
ENERGY AND NATURAL RESOURCES
ENVIRONMENT AND PUBLIC WORKS
FOREIGN RELATIONS
INDIAN AFFAIRS
CHAIRMAN

United States Senate

April 10, 2015

Laura Vaught
Associate Administrator for Congressional and Intergovernmental Relations
Environmental Protection Agency
1200 Pennsylvania Avenue, NW, Room 3426 ARN
Washington, DC 20460-0001

Dear Ms. Vaught,

Enclosed is a copy of correspondence I have received from my constituent concerning presentations made by Dr. William Hirzy on September 8, 2014, and March 11, 2015, to EPA officials on the subject of fluoride exposure as it relates to IQ loss in children. I hope that you will carefully review this inquiry and provide a timely response to their questions.

Questions and correspondence can be directed to my Deputy Director of Correspondence, Joe Chaudoin, at 202-224-0810 or joe_chaudoin@barrasso.senate.gov.

Thank you for your prompt attention to this matter.

Sincerely,



John Barrasso, M.D.
United States Senator

Dear Senator Barrasso,

On September 8, 2014 and March 11, 2015 Dr. William Hirzy and others representing me and other citizens concerned about recent publications in the peer reviewed scientific literature about IQ loss in children related to fluoride exposures made presentations to EPA officials on this subject.

I want you to direct the following question to EPA officials that I will name below:

"Please tell me what specific work, beyond 'reading and reviewing', your staff has done to analyze the information presented by Dr. J. William Hirzy to your staff on September 8, 2014 and March 11, 2015 on IQ loss in children related to fluoride exposures.

Specifically, I want to know if your staff has applied EPA's Benchmark Dose methodology to the information made available by Dr. Hirzy, and if so, what the results were.

If your staff has not done this work I want to know why, and when it will be done.

I want to know if any other risk assessment methodologies were used by your staff on this information, and if so, what the results were."

Please send this letter to the EPA Administrator Gina McCarthy; Acting Assistant Administrator for Water Ken Kapocis; Director of the Office of Ground Water and Drinking Water Peter Grevatt; Assistant Administrator for Research and Development Lek Kadeli, and in the Office of Water, Director of the Office of Science and Technology Betsy Southerland.

Thank you for your help in this matter that is very important to me.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 21 2015

OFFICE OF WATER

The Honorable John Barrasso, M.D.
United States Senate
Washington, D.C. 20510

Dear Senator Barrasso:

Thank you for your recent letter to Laura Vaught, Associate Administrator for Congressional and Intergovernmental Relations, in which you forwarded an inquiry from your constituent regarding presentations made to the U.S. Environmental Protection Agency (EPA) by Dr. William Hirzy on the topic of fluoride exposure and the potential for IQ loss in children. I am responding to your letter on behalf of Ms. Vaught by providing you with information on the EPA's activities related to the review of the EPA's fluoride drinking water regulation.

The National Primary Drinking Water Regulation for Fluoride includes an enforceable maximum contaminant level of 4.0 mg/L, which was set in 1986 to protect against crippling skeletal fluorosis. The regulation also includes a non-enforceable secondary maximum contaminant level for fluoride, which is set at 2.0 mg/L to protect against severe dental fluorosis.

The agency is in the process of reviewing the National Primary Drinking Water Regulation for Fluoride as part of its Six-Year Review of drinking water regulations, in accordance with Section 1412(b)(9) of the Safe Drinking Water Act. We are considering the information that Dr. Hirzy discussed, along with peer reviewed health effects studies and information on treatment, analytical methods and occurrence, to determine if a revision to the drinking water standard is appropriate.

We appreciate the information that Dr. Hirzy provided and the continued interest of concerned citizens regarding this topic. Again, thank you for your letter. If you have further questions, please contact me or your staff may contact Cathy Davis in the EPA's Office of Congressional and Intergovernmental Relations at Davis.CatherineM@epa.gov or 202-564-2703.

Sincerely,

A handwritten signature in black ink, reading "Kenneth J. Kopocis".

Kenneth J. Kopocis
Deputy Assistant Administrator

AL-1500-8923



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 12 2015

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

The Honorable Pat Roberts
Chairman, Committee on Agriculture,
Nutrition, and Forestry
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

Section 25(a)(3) of the Federal Insecticide, Fungicide, and Rodenticide Act requires the U.S. Environmental Protection Agency to send draft rules to your Committee. I am pleased to provide you and the Committee with a draft final rule revising and updating the agricultural Worker Protection Standard. This action is identified in the Regulatory Agenda under RIN 2070-AJ22.

The purpose of the draft final rule is to better protect farmworkers and pesticide handlers. The draft is based on extensive engagement with agricultural entities and other stakeholders since the original rule was fully implemented in 1995. These provisions include improvements to the effectiveness of training requirements, better protections for workers in treated areas and protections for children. The draft final rule also incorporates other minor changes to clarify the regulations, including new and updated definitions. Finally, the rule will expand the current exemption from essentially all WPS requirements for farm owners and their families and children to cover additional establishments.

The agency has also submitted this draft final rule to the U.S. Department of Agriculture, as required by FIFRA Section 25(a), and plans to submit it to the Office of Management and Budget for review under Executive Order 12866.

If you have questions, please contact me, or your staff may contact Mr. Sven-Erik Kaiser in the EPA's Office of Congressional and Intergovernmental Relations at kaiser.sven-erik@epa.gov or (202) 566-2753.

Sincerely,

A handwritten signature in blue ink, which appears to read "James J. Jones", is written over a circular stamp. The stamp contains the text "OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION".

James J. Jones
Assistant Administrator

Enclosure

ENVIRONMENTAL PROTECTION AGENCY**40 CFR Part 170****[EPA-HQ-OPP-2011-0184; FRL-XXXX-XX]****RIN 2070-AJ22****Pesticides; Agricultural Worker Protection Standard Revisions****AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Final rule.

1 **SUMMARY:** EPA is publishing final updates and revisions to the existing worker protection
2 regulation for pesticides. The final rule will enhance the protections provided to agricultural
3 workers, pesticide handlers, and other persons under the Worker Protection Standard by
4 strengthening elements of the existing regulation, such as training, notification, pesticide safety
5 and hazard communication information, use of personal protective equipment, and the providing
6 of supplies for routine washing and emergency decontamination. EPA expects the final rule to
7 prevent unreasonable adverse effects from exposure to pesticides among agricultural workers
8 and pesticide handlers, vulnerable groups (such as minority and low-income populations, child
9 farmworkers, and farmworker families) and other persons who may be on or near agricultural
10 establishments, and to mitigate exposures that do occur. In order to reduce compliance burdens
11 for family farms, EPA has included an expanded immediate family exemption in the final rule.

12 **DATES:** This final rule is effective [*insert date 60 days after date of publication in the Federal*
13 **Register**]. Agricultural employers and handler employers will be required to comply with most
14 of the new requirements on [*Insert date: one year after the effective date of the final rule*], as

provided in 40 CFR 170.11. Agricultural employers and handler employers will be required to comply with certain new requirements on [Insert date: two years after the effective date of the final rule] or later, as provided in 40 CFR 170.311(a)(3), 170.401(c)(3), 170.501(c)(3) and 170.505(b).

ADDRESSES: The docket for this action, identified by docket identification (ID) number EPA-HQ-OPP-2011-0184, is available at <http://www.regulations.gov> or at the Office of Pesticide Programs Regulatory Public Docket (OPP Docket) in the Environmental Protection Agency Docket Center (EPA/DC), West William Jefferson Clinton Bldg., Rm. 3334, 1301 Constitution Ave., NW., Washington, DC 20460-0001. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the OPP Docket is (703) 305-5805. Please review the visitor instructions and additional information about the docket available at <http://www.epa.gov/dockets>.

FOR FURTHER INFORMATION CONTACT: Kathy Davis, Field and External Affairs Division (7506P), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460-0001; telephone number: (703) 308-7002; email address: davis.kathy@epa.gov.

SUPPLEMENTARY INFORMATION:

I. Does this Action Apply to Me?

You may be potentially affected by this action if you work in or employ persons working in crop production agriculture where pesticides are applied.

The following list of North American Industrial Classification System (NAICS) codes is not intended to be exhaustive, but rather provides a guide to help readers determine whether this

document applies to them. Potentially affected entities may include:

- Agricultural Establishments (NAICS code 111000), e.g., establishments or persons, such as farms, orchards, groves, greenhouses, and nurseries, primarily engaged in growing crops, plants, vines, or trees and their seeds.

- Nursery and Tree Production (NAICS code 111421), e.g., establishments or persons primarily engaged in (1) growing nursery products, nursery stock, shrubbery, bulbs, fruit stock, sod, and so forth, under cover or in open fields and/or (2) growing short rotation woody trees with a growth and harvest cycle of 10 years or less for pulp or tree stock.

- Timber Tract Operations (NAICS code 113110), e.g., establishments or persons primarily engaged in the operation of timber tracts for the purpose of selling standing timber.

- Forest Nurseries and Gathering of Forest Products (NAICS code 113210), e.g., establishments or persons primarily engaged in (1) growing trees for reforestation and/or (2) gathering forest products, such as gums, barks, balsam needles, rhizomes, fibers, Spanish moss, ginseng, and truffles.

- Farm Workers (NAICS codes 11511, 115112, and 115114), e.g., establishments or persons primarily engaged in providing support activities for growing crops; establishments or persons primarily engaged in performing a soil preparation activity or crop production service, such as plowing, fertilizing, seed bed preparation, planting, cultivating, and crop protecting services; and establishments or persons primarily engaged in performing services on crops, subsequent to their harvest, with the intent of preparing them for market or further processing.

- Pesticide Handling on Farms (NAICS code 115112), e.g., establishments or persons primarily engaged in performing a soil preparation activity or crop production service, such as seed bed preparation, planting, cultivating, and crop protecting services.

61 • Farm Labor Contractors and Crew Leaders (NAICS code 115115), e.g., establishments
62 or persons primarily engaged in supplying labor for agricultural production or harvesting.

63 • Pesticide Handling in Forestry (NAICS code 115310), e.g., establishments or persons
64 primarily providing support activities for forestry, such as forest pest control.

65 • Pesticide Manufacturers (NAICS code 325320), e.g., establishments primarily engaged
66 in the formulation and preparation of agricultural and household pest control chemicals (except
67 fertilizers).

68 • Farm Worker Support Organizations (NAICS codes 813311, 813312, and 813319), e.g.,
69 establishments or persons primarily engaged in promoting causes associated with human rights
70 either for a broad or specific constituency; establishments or persons primarily engaged in
71 promoting the preservation and protection of the environment and wildlife; and establishments
72 primarily engaged in social advocacy.

73 • Farm Worker Labor Organizations (NAICS code 813930), e.g., establishments or
74 persons primarily engaged in promoting the interests of organized labor and union employees.

75 • Administration of Conservation Programs (NAICS code 924120), e.g., government
76 establishments primarily engaged in the administration, regulation, supervision and control of
77 land use, including recreational areas; conservation and preservation of natural resources; erosion
78 control; geological survey program administration; weather forecasting program administration;
79 and the administration and protection of publicly and privately owned forest lands. Government
80 establishments responsible for planning, management, regulation and conservation of game, fish,
81 and wildlife populations, including wildlife management areas and field stations; and other
82 administrative matters relating to the protection of fish, game, and wildlife are included in this
83 industry.

• Crop Advisors (NAICS codes 115112, 541690, 541712) e.g., establishments or persons who primarily provide advice and assistance to businesses and other organizations on scientific and technical issues related to pesticide use and pest pressure.

II. Background

A. Executive Summary

1. *Purpose of the regulatory action.* The Environmental Protection Agency (EPA or the Agency) has revised the existing Worker Protection Standard (WPS) at 40 CFR part 170 to reduce occupational pesticide exposure and the incidence of related illness among agricultural workers (workers) and pesticide handlers (handlers) covered by the rule, and to protect bystanders and others from exposure from agricultural pesticide use. This regulation, in combination with other components of EPA's pesticide regulatory program, is intended to prevent unreasonable adverse effects of pesticides among workers, handlers and other persons who may be on or near agricultural establishments, including vulnerable groups, such as minority and low-income populations.

2. *Summary of the major changes from the proposal to the final rule.* This final rule revises the existing WPS. Some significant changes are described immediately below. In Units V. through XIX., this Notice discusses in more detail the proposed rule, public comments submitted, EPA's responses to the public comments and final regulatory requirements.

In regard to training, the final rule retains the proposed content expansions (including how to protect family members and reduce take-home exposure) and the requirement for employers to ensure that workers and handlers receive pesticide safety training every year. Employers are required to retain records of the training provided to workers and handlers for two years from the date of training. The final rule eliminates the training "grace period," which

107 allowed employers to delay providing full pesticide safety training to workers (for up 5 days
108 under the existing rule and for up to two days under the proposal) from the time worker activities
109 began, if the workers received an abbreviated training prior to entering any treated area.

110 In regard to notification, the final rule retains the proposed requirements for employers to
111 post warning signs around treated areas in outdoor production when the product used has a
112 restricted-entry interval (REI) greater than 48 hours and to provide to workers performing early-
113 entry tasks, i.e., entering a treated area when an REI is in effect, information about the pesticide
114 used in the area where they will work, the specific task(s) to be performed, the personal
115 protective equipment (PPE) required by the labeling and the amount of time the worker may
116 remain in the treated area. The final rule does not include the proposed requirement for
117 employers to keep a record of the information provided to workers performing early-entry tasks.
118 The final rule retains the existing requirements for the sign that must be used when posted
119 notification of treated areas is required.

120 In regard to hazard communication, the final rule requires employers to post pesticide
121 application information and a safety data sheet (SDS) for each pesticide used on the
122 establishment (known together as pesticide application and hazard information) at a central
123 location on the establishment (the “central display”), a departure from the proposal to eliminate
124 the existing requirement for a central display of pesticide application-specific information. The
125 final rule also requires the employer to maintain and make available upon request the pesticide
126 application-specific information and the SDSs for pesticides used on the establishment for two
127 years. The final rule does not include the proposed requirement for the employer to maintain
128 copies of the labeling for each product used on the establishment for two years. The final rule
129 also does not include the proposal to make the pesticide application and hazard information

130 available to “authorized representatives.”

131 In regard to protections during pesticide applications, the final rule designates the area
132 immediately surrounding the application equipment as the area from which workers and other
133 persons must be excluded. This “application exclusion zone” differs from the proposed “entry-
134 restricted areas,” which would have extended a specified distance around the entire treated area
135 during application based on the application equipment used. The final rule requires handlers to
136 suspend application, rather than cease application, if they are aware of any person in the
137 application exclusion zone other than a properly trained and equipped handler involved in the
138 application.

139 In regard to establishing a minimum age for handlers and workers performing early-entry
140 tasks, the final rule requires that handlers and workers performing early-entry tasks be at least 18
141 years old, rather than the proposed minimum age of 16 years old. This minimum age does not
142 apply to an adolescent working on an establishment owned by an immediate family member. The
143 final rule does not require the employer to record workers’ or handlers’ birthdates as part of the
144 training record, but does require the employer to verify they meet the minimum age
145 requirements.

146 In regard to personal protective equipment (PPE), the final rule cross-references certain
147 Occupational Safety and Health Administration’s (OSHA) requirements for respirator use that
148 employers will be required to comply with, i.e., fit test, medical evaluation, and training for
149 handlers using pesticides that require respirator use. The final rule expands the respirators subject
150 to fit testing beyond the proposal to include filtering facepiece respirators. The final rule
151 maintains the existing exception from the handler PPE requirements when using a closed system
152 to transfer or load pesticides, and adopts a general performance standard for closed systems,

which differs from the specific design standards based on California's existing standard for closed systems discussed in the proposal.

3. *Costs and impacts.* Under section 3(f)(4) of Executive Order 12866 (58 FR 51735; October 4, 1993), this action is a "significant regulatory action" because it may raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order. Accordingly, EPA submitted this proposed rulemaking to the Office of Management and Budget (OMB) for review under Executive Orders 12866 and 13563 (76 FR 3821; January 21, 2011), and any changes made in response to OMB recommendations have been documented in the public docket for this action.

EPA has prepared an analysis of the potential costs and impacts associated with this rulemaking. (1) This analysis is summarized in greater detail in Unit II.D. of this proposal. The following chart provides a brief outline of the costs and impacts of this proposal:

<i>Category</i>	<i>Description</i>	<i>Source</i>
Monetized Benefits		
Avoided acute pesticide incidents	\$0.5 – 2.5 million/year after adjustment for underreporting of pesticide incidents	EA Chapter 6.5
	Willingness to pay to avoid acute effects of pesticide exposure beyond cost of treatment and loss of productivity.	
	Reduced latent effect of avoided acute pesticide exposure.	
Qualitative Benefits	Reduced chronic effects from lower chronic pesticide exposure to workers, handlers, and farmworker families, including a range of illnesses such as Non-Hodgkins lymphoma, prostate cancer, Parkinson's disease, lung cancer, chronic bronchitis, and asthma.	EA Chapter 6
Monetized Costs	\$ 58.1 – 64.8 million/year	EA Chapter 5.2
	No significant impact on a substantial number of small entities.	
Small Business Impacts	The rule will affect over 295,000 small farms, nurseries, and greenhouses, and	EA Chapter 5.4

commercial entities that are contracted to
apply pesticides.

Impact less than 0.1% of the annual value of
sales or revenues for the average small
entity.

The rule will have a negligible effect on
jobs and employment.

The marginal cost of a typical farmworker
is expected to increase \$5/year.

Impact on Jobs

EA Chapter 5.3

The marginal cost for a more skilled
pesticide handler is expected to increase by
\$50 per year, but this is less than 0.2% of
the cost of a part-time employee.

167

168 *B. What Action is the Agency Taking?*

169 EPA is finalizing changes to the WPS. The WPS is a regulation primarily intended to
170 reduce the risks of injury or illness resulting from agricultural workers' and handlers' use and
171 contact with pesticides on farms, forests, nurseries and greenhouses. The rule primarily seeks to
172 protect workers (those who perform hand-labor tasks in pesticide-treated crops, such as
173 harvesting, thinning, pruning) and handlers (those who mix, load and apply pesticides). The rule
174 does not cover persons working with livestock. The existing regulation has provisions requiring
175 employers to provide workers and handlers with pesticide safety training, posting and
176 notification of treated areas, and information on entry restrictions, as well as PPE for workers

177 who enter treated areas after pesticide application to perform crop-related tasks and handlers who
178 mix, load, and apply pesticides.

179 The final rule takes into consideration comments received from the public in response to
180 the notice of proposed rulemaking, 79 FR 15444, March 19, 2014, as well as additional
181 information such as reported incidents of pesticide-related illness or injury.

182 EPA believes that the changes to the WPS offer targeted improvements that will reduce
183 risk through protective requirements and improve operational efficiencies. Among other things,
184 EPA expects the changes to:

- 185 • Improve effectiveness of worker and handler training.
- 186 • Improve protections to workers during REIs.
- 187 • Improve protections for workers during and after pesticide applications.
- 188 • Expand the information provided to workers, thus improving hazard communication
189 protections.
- 190 • Expand the content of pesticide safety information displayed to improve the display's
191 effectiveness.
- 192 • Improve the protections for crop advisor employees.
- 193 • Increase the amounts of decontamination water available, thus improving the
194 effectiveness of the decontamination process.
- 195 • Improve the emergency response when workers or handlers experience pesticide
196 exposures.
- 197 • Improve the organization of the WPS, thus making it easier for employers to understand
198 and comply with the rule.
- 199 • Clarify that workers and handlers are covered by the rule only if they are employed,

200 directly or indirectly, by the establishment (i.e., receiving a salary or wage).

201 • Protect adolescents by establishing a minimum age for handlers and for workers who
202 enter a treated area during an REI, but adding an exemption to the minimum age requirement for
203 adolescents who work on an establishment owned by an immediate family member.

204 • Improve flexibility for small farmers and members of their immediate family by
205 expanding the definition of immediate family members to be more inclusive and retaining the
206 exemptions from almost all WPS requirements for owners and their immediate family members.

207 *C. What is the Agency's Authority for Taking this Action?*

208 This action is issued under the authority of sections 2 through 35 of the Federal
209 Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. 136-136y, and particularly
210 section 25(a), 7 U.S.C. 136w(a).

211 *D. Costs and Benefits of the Rule*

212 EPA estimates the incremental cost of the revisions to the WPS to be between \$58.1 and
213 \$64.8 million per year, given a three percent discount rate. Using a seven percent discount rate,
214 the rule is estimated to cost between \$54.1 and \$64.8 million per year. The majority of the costs,
215 \$51.0 to \$60.2 million per year, are borne by farms, nurseries, and greenhouses that hire labor
216 and use pesticides, which account for about 20 percent of all farms producing crops in the United
217 States. The approximately 2,000 commercial pesticide handling establishments, which are
218 contracted to apply pesticides on farms, may see an incremental cost of about \$1.9 million per
219 year. Family farms, i.e., not hiring labor, that use pesticides may collectively bear costs of about
220 \$1.4 million per year. Total costs amount to an average expenditure of about \$30 per year per
221 farm worker. Benefits, in terms of reduced illness from exposure to pesticides, are likely to
222 exceed \$65 million per year in terms of avoided costs associated with occupational pesticide

223 incidents and with reductions in chronic diseases associated with occupational pesticide
224 exposure, although the amount we can quantify is much less.

225 The changes to the current WPS requirements are expected to lead to an overall reduction
226 in incidents of unsafe pesticide exposure and to improve the occupational health of the nation's
227 agricultural workers and pesticide handlers. This section provides an overview of the qualitative
228 benefits of the proposal and the estimated benefits that would accrue from avoiding acute
229 pesticide exposure in the population protected by the WPS. It also provides an estimate of the
230 number of chronic illnesses with a plausible association with pesticide exposure that would have
231 to be prevented by the rule changes in order for the total estimated benefits to meet the estimated
232 cost of the proposal.

233 A sizeable portion of the agricultural workforce may be exposed occupationally to
234 pesticides and pesticide residues. These exposures can pose significant long- and short-term
235 health risks. It is difficult to quantify a specific level of risk and project the risk reduction that
236 would result from this rule, because workers and handlers are potentially exposed to a wide
237 range of pesticides with varying toxicities and risks. However, there is strong evidence that
238 workers and handlers may be exposed to pesticides at levels that can cause adverse effects and
239 that both the exposures and the risks can be substantially reduced. EPA believes the provisions in
240 the final rule will reduce pesticide exposures and the associated risks.

241 The estimated quantified benefits from reducing acute worker and handler exposure to
242 pesticides total between \$0.5 million and \$2.5 million annually (1). This conservative estimate
243 includes only the avoided costs in medical care and lost productivity to workers and handlers and
244 assumes that just 10% of acute pesticide incidents are reported. It does not include quantification
245 of the reduction in chronic effects of pesticide exposure to workers and handlers, reduced effects

of exposure including developmental impacts, to children and pregnant workers and handlers or willingness to pay to avoid symptoms of pesticide exposure. Because the chronic effects of pesticide exposures are seldom attributable to a specific cause, and thus are unlikely to be recorded in pesticide poisoning databases, EPA is not able to quantify the benefits expected to accrue from the final WPS changes that are expected to reduce chronic exposure to pesticides. However, associations between pesticide exposure and certain cancer and non-cancer chronic health effects are well documented in the peer-reviewed literature, and reducing these chronic health effects is an important FIFRA goal.

Even if the lack of quantitative data impairs the reliability of estimates of the total number of chronic illnesses avoided, it is reasonable to expect that the proposed changes to the WPS will reduce the incidence of chronic disease resulting from pesticide exposure. Therefore, EPA conducted a “break even” analysis to consider the plausibility of the changes to the WPS reducing the incidence of chronic disease enough to cause the net benefits of the proposed rule to exceed its anticipated costs. Under this analysis, EPA looked at the costs associated with non-Hodgkin’s lymphoma, prostate cancer, Parkinson’s disease, lung cancer, bronchitis, and asthma and their frequency among agricultural workers, and found that reducing the incidence of lung cancer by 0.092% and the incidence of the other chronic diseases by 0.92% per year (about 53 total cases per year among the population of workers and handlers protected under the WPS) would produce quantified benefits sufficient to bridge the gap between the quantified benefits from reducing acute incidents and the \$58.1 million to \$64.8 million cost of the proposed rule. Overall, the weight of evidence suggests that the requirements will result in long-term health benefits to agricultural workers and pesticide handlers in excess of the less than 1% reduction in just six diseases that corresponds with the break-even point for the final rule, not only by

reducing their daily risk of pesticide exposures, but also by improving quality of life throughout their lives, resulting in a lower cost of health care and a healthier society.

The changes to the current WPS requirements, specifically improved training on reducing pesticide residues brought from the treated area to the home on workers and handlers' clothing and bodies and establishing a minimum age for handlers and early entry workers, other than those covered by the immediate family exemption, mitigate the potential for children to be exposed to pesticides directly and indirectly. The unquantified benefit to adolescent workers and handlers, as well as children of workers and handlers is great; reducing exposure to pesticides could translate into fewer sick days, fewer days missed of school, improved capacity to learn, and better long-term health. Parents and caregivers reap benefits by having healthier families, fewer missed workdays, and better quality of life.

By finalizing several interrelated exposure-reduction measures, the rule is expected to avoid or mitigate approximately 44 to 73% of annual reported acute WPS-related pesticide incidents. EPA believes the final rule will substantially reduce for these workers and handlers the potential for adverse health effects (acute and chronic) from occupational exposures to such pesticides and their residues. These measures include requirements intended to reduce exposure by:

- Ensuring that workers and handlers are informed about the hazards of pesticides –the final rule changes the content and frequency of required pesticide safety training, as well as making changes to ensure that the pesticide safety training is more effective.

- Reducing exposure to pesticides – among other things, the final rule changes and clarifies the requirements for personal protective equipment. It also makes changes to the timing of applications when people are nearby. These and other provisions should directly reduce

exposure in the agricultural workforce.

- Mitigating the effects from exposures that occur – some accidental exposures are inevitable. EPA expects the final rule will mitigate the severity of health impacts by updating and clarifying what is required to respond to exposures.

Further detail on the benefits of this proposal is provided in the document titled “Economic Analysis of the Agricultural Worker Protection Standard Revisions” which is available in the docket for this rulemaking (1).

III. Introduction & Procedural History

The existing WPS was published in 1992 and implemented fully in 1995. Since implementation, EPA has sought to ensure that the rule provides the intended protections effectively and to identify necessary improvements. To accomplish this, EPA engaged diverse stakeholders, individually and collectively through organized outreach efforts, to discuss the rule and get feedback from affected and interested parties. Groups with which EPA engaged included, but were not limited to, farmworker organizations, health care providers, state regulators, educators and trainers, pesticide manufacturers, farmers, organizations representing agricultural commodity producers and crop advisors. EPA engaged these groups formally through the National Assessment of the Pesticide Worker Safety Program (<http://www.epa.gov/pesticides/safety/workshops.htm>), public meetings (e.g., National Dialogue on the Worker Protection Standard), federal advisory committee meetings (e.g., Pesticide Program Dialogue Committee, <http://www.epa.gov/pesticides/ppdc/>) and a Small Business Advocacy Review Panel. (2) EPA also engaged stakeholders informally, as individual organizations and in small groups.

Using feedback from stakeholders, along with other information, EPA developed

315 proposed changes to the WPS and published them for public comment. 79 FR 15444, March 19,
316 2014. EPA received substantial feedback on the proposal, including about 2,400 written
317 comments with over 393,000 signatures. Commenters included farmworker advocacy
318 organizations, state pesticide regulatory agencies (states) and organizations, public health
319 organizations, public health agencies, growers and grower organizations, agricultural producer
320 organizations, applicators and applicator organizations, pesticide manufacturers and
321 organizations, PPE manufacturers, farm bureaus, crop consultants and organizations, and others.
322 The comments received covered a wide range of issues and took diverse positions. Overall, the
323 comments were thoughtful and demonstrated a high level of interest in ensuring the protection of
324 workers and handlers, while minimizing burden on employers and regulatory agencies. This
325 Notice discusses some of the significant comments received and EPA's responses. A full
326 summary of comments received and EPA's responses are available in the docket for this
327 rulemaking. (3)

328 While considering stakeholder feedback and suggestions in developing the final rule,
329 EPA also gathered additional information, such as updated demographic information for
330 farmworkers, new data from the U.S. Department of Agriculture's (USDA) National Agricultural
331 Statistics Service, information on other federal rules (e.g., respirator standards, anti-retaliatory
332 provisions), and more recent data on incidents related to occupational pesticide exposure in
333 agriculture. EPA reviewed the methodology used to estimate the number of acute pesticide-
334 related incidents in agriculture and used the updated information to revise the estimated number
335 of incidents that could be avoided under the final rule. EPA also revised the Economic Analysis
336 for the final rule to include more recent information from the National Agricultural Statistics
337 Service and with input from public comments.

IV. Context & Goals of This Rulemaking

A. Context for this Rulemaking

1. *Statutory authority.* The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) of 1947 established a framework for the pre-market registration and regulation of pesticide products; since 1972, FIFRA has prohibited the registration of pesticide products that cause unreasonable adverse effects. FIFRA makes it unlawful to use a pesticide in a manner inconsistent with the labeling and gives EPA's Administrator authority to develop regulations to carry out the Act. FIFRA's legislative history indicates that Congress specifically intended for FIFRA to protect workers and other persons from occupational exposure directly to pesticides or to their residues. (4)

Under FIFRA's authority, EPA has implemented measures to protect workers, handlers, other persons, and the environment from pesticide exposure in two primary ways. First, EPA includes specific use instructions and restrictions on individual pesticide product labeling. These instructions and restrictions are the result of EPA's stringent registration and reevaluation processes and are based on the risks of the particular product. Since users must comply with directions for use and restrictions on a product's labeling, EPA uses the labeling to convey mandatory requirements for how the pesticide must be used to protect people and the environment from unreasonable adverse effects of pesticide exposure. Second, EPA enacted the WPS to expand protections against the risks of agricultural pesticides without making individual product labeling longer and much more complex. The WPS is a uniform set of requirements for workers, handlers and their employers that are generally applicable to all agricultural pesticides and are incorporated onto agricultural pesticide labels by reference. Its requirements complement the product-specific labeling restrictions and are intended to minimize occupational exposures

generally.

2. *EPA's regulation of pesticides.* EPA uses a science-based approach to register and re-evaluate pesticides, in order to protect human health and the environment from unreasonable adverse effects that might be caused by pesticides. The registration process begins when a manufacturer submits an application to register a pesticide. The application must contain required test data, including information on the pesticide's chemistry, environmental fate, toxicity to humans and wildlife, and potential for human exposure. EPA also requires a copy of the proposed labeling, including directions for use, and appropriate warnings.

Once an application for a new pesticide product is received, EPA conducts an evaluation, which includes a detailed review of scientific data to determine the potential impact on human health and the environment. EPA considers the risk assessments and results of any peer review, and evaluates potential risk management measures that could mitigate risks that exceed EPA's level of concern. In the registration process, EPA evaluates the proposed use(s) of the pesticide to determine whether it would cause adverse effects on human health, non-target species, and the environment. In evaluating the impact of a pesticide on occupational health and safety, EPA considers the risks associated with use of the pesticide (occupational, environmental) and the benefits associated with use of the pesticide (economic, public health, environmental). However, FIFRA does not require EPA to balance the risks and benefits for each audience. For example, a product may pose risks to workers, but risk may nevertheless be reasonable in comparison to the economic benefit of continued use of the product to society at large.

If the application for registration does not contain evidence sufficient for EPA to determine that the pesticide meets the FIFRA registration criteria, EPA communicates to the applicant the need for more or better refined data, labeling modifications, or additional use

384 restrictions. Once the applicant has demonstrated that a proposed product meets the FIFRA
385 registration criteria and any applicable requirements under the Federal Food, Drug, and Cosmetic
386 Act (FFDCA; 21 U.S.C. 321 et seq.), EPA approves the registration subject to any risk
387 mitigation measures necessary to meet the FIFRA registration criteria. EPA devotes significant
388 resources to the regulation of pesticides to ensure that each pesticide product meets the FIFRA
389 requirement that pesticides not cause unreasonable adverse effects to the public and the
390 environment.

391 When EPA approves a pesticide, the labeling reflects all risk mitigation measures
392 required by EPA. The risk mitigation measures may include requiring certain engineering
393 controls, such as the use of closed systems for mixing pesticides and loading them into
394 application equipment to reduce potential exposure to those who handle pesticides; establishing
395 conditions on the use of the pesticide by specifying certain use sites, maximum application rate
396 or maximum number of applications; or establishing REIs during which entry into an area treated
397 with the pesticide is generally prohibited until residue levels have declined to levels unlikely to
398 cause unreasonable adverse effects. Because users must comply with the directions for use and
399 use restrictions on a product's labeling, EPA uses the labeling to establish and convey mandatory
400 requirements for how the pesticide must be used to protect the applicator, the public, and the
401 environment from pesticide exposure.

402 Under FIFRA, EPA is required to review periodically the registration of pesticides
403 currently registered in the United States. The 1988 FIFRA amendments required EPA to
404 establish a pesticide reregistration program. Reregistration was a one-time comprehensive review
405 of the human health and environmental effects of pesticides first registered before November 1,
406 1984 to make decisions about these pesticides' future use. The Food Quality Protection Act of

1996 (FQPA) required that EPA establish, through rule making, an ongoing “registration review” process of all pesticides at least every 15 years. The final rule establishing the registration review program was signed in August 2006. 71 FR 45720, August 9, 2006. The purpose of both re-evaluation programs is to review all pesticides registered in the United States to ensure that they continue to meet current safety standards based on up-to-date scientific approaches and relevant data.

Pesticides reviewed under the reregistration program that met current scientific and safety standards were declared “eligible” for reregistration. The results of EPA’s reviews are summarized in Reregistration Eligibility Decision (RED) documents. The last RED was completed in 2008. Often before a pesticide could be determined “eligible,” additional risk reduction measures had to be put in place. For a number of pesticides, measures intended to reduce exposure to handlers and workers were needed and are reflected on pesticide labeling. To address occupational risk concerns, REDs include mitigation measures such as: Voluntary cancellation of the product or specific use(s); limiting the amount, frequency or timing of applications; imposing other application restrictions; classifying a product or specific use(s) for restricted use only by certified applicators; requiring the use of specific PPE; establishing specific REIs; and improving use directions.

EPA’s registration review program is a recurring assessment of products against current standards. EPA will review each registered pesticide at least every 15 years to determine whether it continues to meet the FIFRA standard for registration. Pesticides registered before 1984 were reevaluated initially under the reregistration program. These and pesticides initially registered in 1984 or later are all subject to registration review.

In summary, EPA’s pesticide reregistration and registration reviews assess the specific

risks associated with particular chemicals and ensure that the public and environment do not suffer unreasonable adverse effects from those risks. EPA implements the risk reduction and mitigation measures identified in the pesticide reregistration and registration review programs through amendments to individual pesticide product labeling.

3. *WPS*. The WPS regulation is incorporated by reference on certain pesticide product labeling through a statement in the agricultural use box. The WPS provides a comprehensive collection of pesticide management practices generally applicable to all agricultural pesticide use scenarios in crop production, complementing the product-specific requirements that appear on individual pesticide product labels.

The risk reduction measures of the WPS may be characterized as being one of three types: Information, protection and mitigation. To ensure that employees will be informed about exposure to pesticides, the WPS requires that workers and handlers receive training on general pesticide safety, and that employers provide access to information about the pesticides with which workers and handlers may have contact. To protect workers and handlers from pesticide exposure, the WPS prohibits the application of pesticides in a manner that exposes workers or other persons, generally prohibits workers and other persons from being in areas being treated with pesticides, and generally prohibits workers from entering a treated area while an REI is in effect (with limited exceptions that require additional protections). In addition, the rule protects workers by requiring employers to notify them about areas on the establishment treated with pesticides, through posted and/or oral warnings. The rule protects handlers by ensuring that they understand proper use of and have access to required PPE. Finally, the WPS has provisions to mitigate exposures if they do occur by requiring the employer to provide to workers and handlers with an ample supply of water, soap and towels for routine washing and emergency

453 decontamination. The employer must also make transportation available to a medical care
454 facility if a worker or handler may have been poisoned or injured by a pesticide and provide
455 information about the pesticide(s) to which the person may have been exposed.

456 EPA manages the risks and benefits of each pesticide product primarily through the
457 labeling requirements specific to each pesticide product. If pesticide products are used according
458 to the labeling, EPA does not expect use to cause unreasonable adverse effects. However, data on
459 incidents of adverse effects to human health and the environment from the use of agricultural
460 pesticides show that users do not always comply with labeling requirements. Rigorous ongoing
461 training, compliance assistance and enforcement are needed to ensure that risk mitigation
462 measures are appropriately implemented in the field. The framework provided by the WPS is
463 critical for ensuring that the improvements brought about by reregistration and registration
464 review are realized in the field. For example, the requirement for handlers to receive instruction
465 on how to use the pesticide and the application equipment for each application is one way to
466 educate handlers about updated requirements on product labeling to ensure they use pesticides in
467 a manner that will not harm themselves, workers, the public or the environment. In addition, the
468 REIs are established through individual product labeling, but action needs to be taken at the use
469 site to ensure that workers are aware of areas on the establishment where REIs are in effect and
470 given directions to be kept out of the treated area while the REI is in effect. The changes to the
471 WPS are designed to enhance the effectiveness of the existing structure of protections and to
472 better realize labeling-based risk mitigation measures at the field level.

473 *B. Goals of This Rulemaking*

474 Discussions with stakeholders over many years, together with EPA's review of incident
475 data, led EPA to identify several shortcomings in the current regulation that will be addressed by

476 this final rule. As discussed in Unit IV.A., EPA uses both product-specific labeling and the WPS
477 to effectuate occupational protections for workers and handlers. EPA engages in ongoing
478 reviews and reassessments of pesticide products to ensure they continue to meet the standard of
479 not causing unreasonable adverse effects to human health and the environment. The WPS must
480 be updated to ensure that the rule continues to complement the labeling-based protections and to
481 address issues identified through experience with the WPS, and review of incident data and
482 stakeholder engagement.

483 *1. Purpose of the WPS.* The WPS is intended to reduce the risks associated with
484 occupational pesticide exposure to workers, handlers and their families, and to protect others and
485 the environment from risks of pesticide use in agricultural production. The rule makes employers
486 of workers and handlers responsible for providing protections to workers and handlers on their
487 establishments. By imposing this obligation, EPA seeks to ensure those who make pesticide use
488 decisions (employers) internalize the effects of their decisionmaking rather than passing on the
489 costs associated with these decisions (risks of pesticide exposure) to others (workers and
490 handlers).

491 As noted in Unit IV.B., the components of the WPS generally can be grouped into three
492 categories: Information, protection, and mitigation. Employers must provide workers and
493 handlers with information needed to protect themselves, others, and the environment from
494 pesticides and pesticide residues through pesticide safety training, pesticide application and
495 hazard information, and access to labeling. Employers must provide protections to workers and
496 handlers during and after applications in order to minimize potential for exposure. Finally,
497 employers must be prepared to mitigate exposures that do occur by providing supplies for
498 washing and emergency decontamination, and emergency transportation to a medical facility if

necessary. These elements are necessary to implement product-specific labeling requirements effectively. For example, pesticide safety training informs workers that areas treated with pesticides are off limits for entry for a certain period after the application, i.e., a product-specific REI, and that their employers will inform them of where and when REIs are in effect and entry into the treated areas is prohibited. In some instances, employers must provide further protection by posting warning signs at treated areas while REIs are in effect to remind workers to keep out of the treated areas. For handlers, training informs them about basic pesticide safety and handling precautions and reducing the potential to expose themselves or others. In addition, the employer must provide information for each application, informing the handler about the product-specific labeling restrictions and requirements.

In summary, the WPS works in conjunction with product labeling to protect workers and handlers from occupational pesticide exposure. The rule imposes burden on the employer to provide protections to workers and handlers and to ensure they have access to information necessary to protect themselves and others during and after pesticide application.

2. Surveillance data. When EPA promulgated the existing rule, it used existing data on occupational pesticide-related incidents to estimate that that approximately 10,000 to 20,000 incidents of physician-diagnosed (not hospitalized) pesticide poisonings occurred in the WPS-covered workforce annually. For this rulemaking, EPA estimates that about 1,850 to 2,950 incidents occur annually. This substantial drop in the estimated number of incidents shows that the existing rule and efforts by employers, workers and handlers have made great accomplishments in reducing pesticide exposure for workers and handlers. Pesticide use in agriculture is safer than it was 20 years ago.

Current occupational health incident surveillance data show, however, that avoidable

incidents continue to occur. For example, some of the occupational pesticide illnesses reported to state health agencies have occurred when workers entered a treated area before the REI expired. Although employers are obligated to warn workers to keep out of treated areas and to ensure that workers receive training on and information about treated areas, incidents continue to occur. Another example of potentially avoidable exposure is spray drift; labeling prohibits application that contacts other persons and handlers should be instructed to apply pesticides in a manner that does not contact other persons, but incidents continue to occur. In addition to surveillance data, studies also show that pesticide residues are brought home by workers and handlers on their bodies and clothing (known as “take-home exposure”), creating an exposure pathway for family members.

This rulemaking is intended to reduce avoidable incidents by improving information, protections, and mitigations for workers and handlers without imposing unreasonable burdens on employers. Although EPA cannot quantify the specific reduction in incidents from any single change to the regulation, taken together, EPA estimates that the final rule will result in an annual reduction of between 540 and 1,620 acute, health-related incidents. In addition, EPA expects that the final rule will reduce chronic health problems among workers and handlers, not only by reducing the daily risk of pesticide exposures, but also by improving quality of life throughout their lives, resulting in a lower cost of health care and a healthier society. (See Unit II.D.) Units V. through XIX. describe the final regulatory requirements and their potential to reduce avoidable incidents. The Economic Analysis for this rulemaking provides an estimate of the costs of the requirements and a quantitative and qualitative discussion of the potential benefits, including avoiding acute pesticide-related illnesses in workers and handlers. (1)

3. Demographics of workers and handlers. In addition to the complexity of the science

545 issues involving pesticide use, variability of pesticide use patterns and incomplete information
546 about occupational pesticide-related illnesses and injuries, the diversity of the labor population at
547 risk and the tasks they perform makes it challenging to ensure that workers and handlers are
548 adequately protected.

549 According to the most recent public data set available from the Department of Labor's
550 (DOL) National Agricultural Worker Survey (NAWS) (2011-2012), 64% of agricultural workers
551 in the United States were born in Mexico and 6% in Central and South America. (5) A majority
552 (69%) of all survey respondents speaks Spanish as their primary language. (5) Approximately
553 65% of this population speaks a little or no English; 38% cannot read English at all and another
554 30% can only read English "a little." (5) Many have received only some formal education; on
555 average, the highest grade completed by foreign-born workers was seventh grade. (5)

556 Approximately 17% of the survey respondents were classified as migrant, having traveled
557 at least 75 miles in the previous year to find a job in agriculture. (5) Only 17% of respondents
558 lived in housing provided by their employer and 55% rented housing from someone other than
559 their employer. (5) In general, agricultural workers surveyed by NAWS do not have access to
560 employer-provided health insurance – in 2011-2012, only 21% of farmworkers reported having
561 the option for employer-provided health insurance. (5) USDA research, based on NAWS data,
562 also reports that workers have difficulty entering the health care system to receive treatment. (6)
563 Cost was a significant barrier for two-thirds of farmworkers, while about a third listed language
564 barriers as an impediment to receiving care. Most workers fear that seeking treatment will result
565 in losing their job because someone will replace them while they are getting treatment or the
566 employer will label them as troublemakers and dismiss them. However, the problem is more
567 severe among undocumented workers because they fear seeking treatment will lead to

deportation or other adverse legal action. (6) A USDA report indicates that the factors mentioned above contribute to the disadvantaged status of hired workers in agriculture. (6)

The NAWS found that 19% of workers and handlers surveyed earned less than \$10,000 annually from agricultural work, and another 39% earn between \$10,000 and \$20,000 annually. Over 55% of respondents reported a total family income below \$22,500. (5)

Both the existing WPS and the changes included in the final rule seek to eliminate some of the potential barriers to achieving effective protection of these persons by requiring training in a manner that workers and handlers can understand, requiring the employer to ensure that handlers understand relevant portions of the labeling before handling a pesticide, and expanding training to provide information on seeking medical care in the event of a pesticide exposure and highlighting the anti-retaliation provisions of the WPS.

4. Summary of the final rule. The final rule amends the WPS by:

- Requiring pesticide safety training at one-year intervals and amending the existing pesticide safety training content.
- Requiring recordkeeping for pesticide safety training.
- Eliminating the “grace period” that allowed workers to enter a treated area to perform WPS tasks before receiving full pesticide safety training.
- Establishing a minimum age of 18 for handlers and for workers who enter an area under an REI.
- Establishing requirements for specific training and notification for workers who enter an area under an REI.
- Restricting persons’ entry into certain areas surrounding application equipment during an application.

- 591 • Clarifying requirements for supplies for routine washing and emergency
592 decontamination.
- 593 • Requiring employers to post warning signs around treated areas when the product
594 applied has an REI greater than 48 hours and allowing the employer to choose to post the treated
595 area or give oral notification when the product applied has an REI of 48 hours or less (unless the
596 labeling requires both types of notification).
- 597 • Requiring employers to maintain and make available copies of the SDSs for products
598 used on the establishment.
- 599 • Adding elements to the requirement to maintain application-specific information.
- 600 • Adopting by reference certain OSHA requirements for employers to provide training, fit
601 testing and medical evaluations to handlers using products with labeling that require use of
602 respirators.
- 603 • Requiring employers to provide supplies for emergency eye flush at all pesticide mixing
604 and loading sites when handlers use products with labeling that requires eye protection.
- 605 • Maintaining the immediate family exemption and ensuring it includes an exemption
606 from the proposed minimum age requirements for handlers and early-entry workers.
- 607 • Expanding the definition of “immediate family” to allow more family-owned operations
608 to qualify for the exemptions to the WPS requirements.
- 609 • Revising definitions to improve clarity and to refine terms.
- 610 • Restructuring the regulation to make it easier to read and understand.
- 611 Units V. through XVIII. discuss the final rule requirements and elements considered in
612 the proposal but not included in the final rule. Unit XIX. discusses implementation of the final
613 regulatory requirements. Each of these Units generally describes the existing rule, proposal and

final regulatory requirements (where appropriate), and summarizes the major comments received and EPA's responses. A separate document summarizing the comments received that were relevant to the proposal and EPA's responses has also been prepared and is available in the docket for this rulemaking. (3)

EPA has grouped the discussion of the final rule and elements considered in the proposal but not included in the final rule as follows:

- Unit V: Pesticide Safety Training for Workers and Handlers.
- Unit VI: Notification.
- Unit VII: Hazard Communication.
- Unit VIII: Information Exchange Between Handler and Agricultural Employers.
- Unit IX: Drift-Related Requirements.
- Unit X: Establish Minimum Age for Handling Pesticides and Working in a Treated Area while an REI is in Effect.
- Unit XI: Restrictions on Worker Entry into Treated Areas.
- Unit XII: Display of Pesticide Safety Information.
- Unit XIII: Decontamination.
- Unit XIV: Emergency Assistance.
- Unit XV: Personal Protective Equipment.
- Unit XVI: Decision not to Require Monitoring of Handler Exposure to Cholinesterase-Inhibiting Pesticides.
- Unit XVII: Exemptions and Exceptions.
- Unit XVIII: General Revisions.
- Unit XIX: Implementation.

V. Pesticide Safety Training for Workers and Handlers

A. Shorten Retraining Interval for Workers and Handlers

1. *Current rule and proposal.* The existing WPS requires employers to ensure that workers and handlers are trained once every five years. EPA proposed to establish an annual retraining interval for workers and handlers in order to improve the ability of workers and handlers to protect themselves and their families from pesticide exposure.

2. *Final rule.* In the final rule, EPA has adopted the proposed requirement for workers and handlers to receive full pesticide safety training annually. The final regulatory text for these requirements is available at 40 CFR 170.401(a) and 170.501(a).

3. *Comments and responses.*

Comments. Several farmworker advocacy groups and public health organizations supported full, annual training, stating that the more frequent training would improve workers' and handlers' ability to protect themselves and their families, and that annual training would be simple to track administratively. Agricultural producer organizations and pesticide producers recommended an initial in-depth training for new workers followed annually by a shortened "refresher" training. A similar suggestion was to require initial in-depth training for workers and handlers, followed by four years of refresher training, with an in-depth training every fifth year. Some states suggested training every two or three years, or allowing each state to set its own training interval, to parallel the state's pesticide applicator recertification interval. A few states recommended a system where the training timeframe is based on the calendar year, to allow flexibility for employers. For example, under this proposal, an employee trained in March 2014 could be retrained as late as December 2015. This suggestion would extend the permitted interval between worker and handler trainings to as long as two years. Comments from pesticide

industry organizations suggested that the frequency of worker safety training be commensurate with an individual workers' tasks, previous training, and experience.

EPA Response. EPA considered the alternatives described above for training frequency, and agrees with the comments that annual training, in some form, is the appropriate interval to ensure that workers and handlers receive more frequent reinforcement of the safety principles. EPA rejected the suggestion for a limited refresher training based on the difficulty both employers and regulators would face in tracking multiple levels of training among a mobile workforce, the burdens of maintaining multiple forms of training materials and providing different trainings where employees are on differing cycles for full and refresher training, and the fact that very little of the substantive content of the required training appears to be material that would not need to be brought to employees' attention annually.

The suggestions for biennial or triennial training and allowing the states to base the frequency of training for workers and handlers on their pesticide applicator recertification requirements would present similar administrative problems with tracking trainings and introduce the possibility that workers or handlers would miss information needed to protect themselves. Finally, the alternative to establish the frequency of training based on the calendar year presents similar issues with tracking training and needed frequency of repetition.

The recommendation for training to be tailored to the individual workers' tasks, experience, and prior training was rejected based on the difficulty in tracking the specific training needs with a mobile workforce, the need for multiple forms of training materials, and the potential burden on employers to determine specific needs for each employee. In addition, the training gives practical information that is useful to everyone who works with or around agricultural pesticides.

683 *B. Establish Recordkeeping Requirements to Verify Training for Workers and Handlers*

684 *1. Current rule and proposal.* The existing WPS does not specify how an employer must
685 verify that a worker or handler has received pesticide safety training. EPA proposed to eliminate
686 the existing voluntary training verification card system and to require employers to maintain
687 records of WPS worker and handler training for two years. EPA proposed that the training record
688 include, among other things, the employee's birthdate to verify minimum age for early-entry
689 worker or handler activities. EPA proposed to require the employer to provide a copy of the
690 record to each worker or handler upon completion of the training.

691 *2. Final rule.* EPA has finalized the proposed requirement for employers to maintain
692 records of worker and handler training for two years. Required information for the record of
693 worker and handler training includes the trained worker's or handler's name and signature, the
694 date of training, the trainer's name, evidence of the trainer's qualification to train, the employer's
695 name, and which EPA-approved training materials were used. EPA has not included in the final
696 rule the proposed requirement for the employer to record or retain birthdate of the employee. The
697 final rule does not require employers to automatically provide a copy of the training record to
698 each worker and handler; instead, the final rule only requires the employer to provide a copy of
699 the training record to the trained employee upon the employee's request. The final regulatory
700 text for the worker and handler training recordkeeping requirements appears at 40 CFR
701 170.401(d) and 170.501(d), respectively.

702 *3. Comments and responses.*

703 Comments – compliance monitoring. Comments in support of a requirement for
704 recordkeeping stated that it would ensure employees received the training and that it would
705 improve enforcement and compliance.

706 EPA Response. EPA agrees with these commenters that recordkeeping is necessary for
707 the purpose of compliance monitoring.

708 Comments – burden. Commenters stated that the proposed requirement to distribute the
709 record to every trained worker or handler would be burdensome and that most workers or
710 handlers would not take or keep the records.

711 EPA Response. EPA agrees with these commenters and has modified the requirement.
712 The final rule requires employers to provide training records to the trained employee only on the
713 employee's request. This will reduce the burden on employers while ensuring that interested
714 employees will be able to demonstrate to future employers that they were appropriately trained.

715 Comments – birthdate. There were a number of comments, particularly from states,
716 related to the proposed requirement that employers include the trained employee's birthdate
717 among the information to be recorded to document training. EPA proposed including the trained
718 employee's birthdate in the recordkeeping in order to facilitate its use to verify that workers or
719 handlers met the proposed minimum age requirement for handling pesticides or entering treated
720 areas while under an REI as allowed under the early entry exceptions. States noted that a
721 person's birthdate can be considered confidential and personal information, the distribution of
722 which can lead to identity theft.

723 EPA Response. EPA has decided the advantages of requiring the employer to record the
724 birthdate of the trained worker or handler are outweighed in this instance by the concerns for
725 protecting confidential and personal information. Under the final rule, the employer is
726 responsible for determining that each employee has met the minimum age requirement. The final
727 rule does not include the proposed requirement for the employer to collect or retain specific
728 documentation of the employee's birthdate or age.

729 *C. Establish Trainer Qualifications for Workers and Handlers*

730 *1. Current rule and proposal.* The existing WPS allows workers and handlers to be
731 trained by a variety of persons, including pesticide applicators certified to use restricted use
732 pesticides (RUPs) under 40 CFR part 171, persons identified by the agency with jurisdiction for
733 pesticide enforcement as a trainer of certified applicators, or persons having completed an
734 approved pesticide safety train-the-trainer course. In addition, persons trained as handlers under
735 the WPS are also eligible to train workers.

736 EPA proposed to limit eligible trainers of workers to those who complete an EPA-
737 approved train-the-trainer program or are designated by EPA or an appropriate state or tribal
738 agency as trainers of certified applicators; being a certified applicator or trained as a handler
739 under the WPS would not automatically qualify a person to train workers under the proposal.
740 EPA did not propose to change the qualifications for trainers of handlers.

741 *2. Final rule.* In the final rule, EPA has expanded the class of persons qualified to train
742 workers relative to the proposed rule. Under the final rule, qualified trainers of workers include
743 persons who: Have completed a pesticide safety train-the-trainer program approved by EPA, are
744 designated as a trainer of certified applicators, handlers or workers by EPA or a state or tribal
745 agency responsible for pesticide enforcement, or are certified pesticide applicators under 40 CFR
746 part 171. Unlike the proposal, certified applicators are considered qualified to train workers
747 under the final rule. However, consistent with the proposal, the persons trained as handlers
748 under the WPS are not considered qualified to train workers under the final rule.

749 The final rule does not make any changes from the existing rule and proposal related to
750 who is qualified to provide training to handlers.

751 The final regulatory text for worker and handler trainer qualifications is available at 40

CFR 170.401(c)(4) and 170.501(c)(4), respectively.

3. Comments and responses.

Comments. Many of the comments advised EPA to retain certified applicators as trainers of workers in the final rule. Several commenters stated that without certified applicators providing worker training, resources such as cooperative extension trainers would be severely strained and there might not be adequate resources to provide annual training for workers. Several states and others noted that certified applicators possess the necessary competence to provide training to workers; in some states, they must receive training specifically for the purpose of training workers in order to meet their certification requirements. Commenters also questioned how a certified applicator could be considered qualified to train handlers, but not workers, as many handlers have the same demographic profile as workers.

There were few comments in support of retaining handlers as trainers for workers. One comment suggested that handlers could be required to take an approved train-the-trainer course to ensure they can adequately train workers.

EPA Response. EPA is persuaded by the comments that it is reasonable to expect that certified applicators can competently train workers, as well as handlers. Commenters note that certified applicators possess knowledge of pesticide safety from their certification training and pesticide handling experience. The commenters stated that the additional burden from the proposed requirement for annual training in combination with the elimination of certified applicators as trainers would severely strain trainer resources and potentially result in fewer workers receiving annual training. This concern persuaded EPA to include certified applicators as qualified to train workers in the final rule.

EPA agrees with the comment that handlers who have gone through a train-the-trainer

course should be eligible to train workers. Under the final regulation, any person, including a handler, is qualified to train workers after successfully completing an approved train-the-trainer course.

D. Expand the Content of Worker and Handler Pesticide Safety Training

1. Current and proposed rule. The existing WPS requires employers to provide pesticide safety training covering specific content to workers and handlers. Under the existing rule, worker safety training content must include the following 11 points:

- Where and in what form pesticides may be encountered during work activities.
- Hazards of pesticides resulting from toxicity and exposure, including acute and chronic effects, delayed effects, and sensitization.
- Routes through which pesticides can enter the body.
- Signs and symptoms of common types of pesticide poisoning.
- Emergency first aid for pesticide injuries or poisonings.
- How to obtain emergency medical care.
- Routine and emergency decontamination procedures, including emergency eye flushing techniques.
- Hazards from chemigation and drift.
- Hazards from pesticide residues on clothing.
- Warnings about taking pesticides or pesticide containers home.
- Requirements of the WPS designed to reduce the risks of illness or injury resulting from workers' occupational exposure to pesticides, including application and entry restrictions, the design of the warning sign, posting of warning signs, oral warnings, the availability of specific information about applications, and the protection against retaliatory acts.

Under the existing rule, pesticide handler safety training must include the following 13 basic safety training points:

- Format and meaning of information contained on pesticide labels and in labeling, including safety information such as precautionary statements about human health hazards.
- Hazards of pesticides resulting from toxicity and exposure, including acute and chronic effects, delayed effects, and sensitization.
- Routes through which pesticides can enter the body.
- Signs and symptoms of pesticide poisoning.
- Emergency first aid for pesticide injuries or poisonings.
- How to get emergency medical care.
- Routine and emergency decontamination procedures.
- Need for and appropriate use of PPE.
- Prevention, recognition, and first aid treatment of heat-related illness.
- Safety requirements for handling, transporting, storing, and disposing of pesticides.
- Environmental concerns.
- Warnings about taking pesticides or pesticide containers home.
- Training on the requirements of the regulation related to handling.

EPA proposed additional content in worker pesticide safety training including, among other things, information on the requirements for early-entry notification and emergency assistance, how to reduce pesticide take-home exposure, the availability of hazard communication materials for workers, the minimum age requirements for handling and early entry, and the obligations of agricultural employers to provide protections to workers.

EPA proposed additional content in handler pesticide safety training, including the

requirement for handlers to cease application if they observe a person, other than another trained and properly equipped handler, in the area being treated or the entry-restricted area, and information about the requirement for OSHA-equivalent training on respirator use, fit-testing of respirators, and medical evaluation in the event a handler must wear a respirator.

2. *Final rule.* EPA has finalized the proposed additions to and expansions of the worker and handler pesticide safety training as detailed below. The final regulatory text for the content of worker and handler pesticide training is available at 40 CFR 170.401(c)(2)-(3) and 170.501(c)(2)-(3).

The final rule requires employers to ensure that workers are trained on the following topics after EPA has announced the availability of training materials (see Unit XIX. for information on the timing of implementation):

- Agricultural employers are required to provide workers with information and protections designed to reduce work-related pesticide exposures and illnesses. This includes providing pesticide safety training, pesticide safety and application information, decontamination supplies and emergency medical assistance, and notifying workers of restrictions during applications and on entering pesticide treated areas.

- How to recognize and understand the meaning of the warning sign used for notifying workers of restrictions on entering pesticide-treated areas on the establishment.

- How to follow directions and/or signs about keeping out of pesticide-treated areas subject to an REI and application exclusion zones.

- Where and in what form pesticides may be encountered during work activities and potential sources of pesticide exposure on the agricultural establishment. This includes exposure to pesticide residues that may be on or in plants, soil, irrigation water, tractors, application and

chemigation equipment, or used PPE, and that may drift through the air from nearby applications or be in irrigation water.

- Potential hazards from toxicity and exposure that pesticides present to workers and their families, including acute and chronic effects, delayed effects, and sensitization.

- Routes through which pesticides can enter the body.

- Signs and symptoms of common types of pesticide poisoning.

- Emergency first aid for pesticide injuries or poisonings.

- Routine and emergency decontamination procedures, including emergency eye flushing techniques, and to wash immediately in the nearest clean water, such as springs, streams, lakes, or other sources, if pesticides are spilled or sprayed on the body and as soon as possible, wash or shower with soap and water, shampoo hair, and change into clean clothes.

- How and when to obtain emergency medical care.

- When working in pesticide-treated areas, wear work clothing that protects the body from pesticide residues and wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet.

- Wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible after working in pesticide-treated areas.

- Potential hazards from pesticide residues on clothing.

- Wash work clothes before wearing them again and wash them separately from other clothes.

- Do not take pesticides or pesticide containers used at work to your home.

- Safety data sheets provide hazard, emergency medical treatment and other information about the pesticides used on the establishment they may come in contact with. Agricultural

employers are required to do all of the following: Display safety data sheets for all pesticides used on the establishment, provide workers information about the location of the safety data sheets on the establishment, and provide workers unimpeded access to safety data sheets during normal work hours.

- Agricultural employers must not allow or direct any worker to mix, load or apply pesticides or assist in the application of pesticides unless the worker has been trained as a handler.

- Agricultural employers must provide specific information to workers before directing them to perform early-entry activities. Workers must be 18 years old to perform early-entry activities.

- Potential hazards to children and pregnant women from pesticide exposure.

- Keep children and nonworking family members away from pesticide-treated areas.

- After working in pesticide-treated areas, remove work boots or shoes before entering your home, and remove work clothes and wash or shower before physical contact with children or family members.

- How to report suspected pesticide use violations to the state or tribal agency responsible for pesticide enforcement.

- Agricultural employers are prohibited from intimidating, threatening, coercing, or discriminating against any worker or handler for complying with or attempting to comply with the requirements of this rule, or because the worker or handler has provided, caused to be provided, or is about to provide information to the employer or to the EPA or its agents regarding conduct that the employee reasonably believes violates this part, and/or has made a complaint, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing

890 concerning compliance with this rule.

891 The final rule requires employers to ensure that handlers are trained on the following
892 topics after EPA has announced the availability of training materials (see Unit XIX. for
893 information on the timing of implementation):

- 894 • All content for worker training.
- 895 • Information on proper application and use of pesticides.
- 896 • Handlers must follow the portions of the labeling applicable to the safe use of the
897 pesticide.
- 898 • Format and meaning of information contained on pesticide labels and in labeling
899 applicable to the safe use of the pesticide.
- 900 • Need for and appropriate use and removal of all PPE.
- 901 • How to recognize, prevent, and provide first aid treatment for heat-related illness.
- 902 • Safety requirements for handling, transporting, storing, and disposing of pesticides,
903 including general procedures for spill cleanup.
- 904 • Environmental concerns, such as drift, runoff, and wildlife hazards.
- 905 • Handlers must not apply pesticides in a manner that results in contact with workers or
906 other persons.
- 907 • Handler employers are required to provide handlers with information and protections
908 designed to reduce work-related pesticide exposures and illnesses. This includes providing,
909 cleaning, maintaining, storing, and ensuring proper use of all required personal protective
910 equipment; providing decontamination supplies; and providing specific information about
911 pesticide use and labeling information.
- 912 • Handlers must suspend a pesticide application if workers or other persons are in the

913 application exclusion zone.

914 • Handlers must be at least 18 years old.

915 • Handler employers must ensure handlers have received respirator fit-testing, training
916 and medical evaluation if they are required to wear a respirator by the product labeling.

917 • Handler employers must post treated areas as required by this rule.

918 EPA will develop the training materials that meet the final training requirements and will
919 publish in the Federal Register a notice of their availability. To allow time for the completion
920 and distribution of revised training materials and to allow time for trainers to become familiar
921 with them and begin training workers and handlers, the rule extends the implementation period
922 for training on the new requirements for two years, or until six months after EPA has made the
923 revised training materials available, whichever is longer.

924 The final requirements for the content of worker and handler pesticide safety training is
925 available at 40 CFR 170.401(c)(2)-(3) at 170.501(c)(2)-(3).

926 *3. Comments and responses.*

927 Comments. Farmworker advocacy organizations, many states, and public health
928 organizations provided support for the expanded training topics, in particular information about
929 preventing take home exposure and medical evaluation, fit testing and training on respirator use
930 for handlers who need to wear respirators. Some farmworker advocacy organizations commented
931 on the importance of information about worker rights.

932 Agricultural producer organizations expressed concern for the additional burden of the
933 lengthier training. Some states asserted that several of the handler training points are beyond the
934 scope of the WPS and should be addressed in applicator certification only. Specifically, they
935 requested that EPA eliminate training on environmental concerns from pesticide use; proper

936 application and use of pesticides; and requirements for handlers to understand the format and
937 meaning of all information contained on pesticide labels and labeling, and to follow all pesticide
938 label directions. These commenters stated that these training points are appropriate for persons
939 who work under the supervision of certified applicators, but they do not relate directly to worker
940 or handler safety. Two states recommended a revision to language in the handler training topics
941 requiring that “all” information on the pesticide label would be required to be covered, stating
942 that all labeling information may not be relevant to a given application.

943 EPA Response. EPA does not agree with comments from states that the handler training
944 topics related to environmental concerns from pesticide use, proper application and use,
945 requirements for handlers to understand the format and meaning of information on labels and to
946 follow label directions are beyond the scope of the WPS and may expand the liability of
947 handlers. First, the “Worker Protection Standard” title is descriptive, and not jurisdictional. The
948 WPS is, in essence, a codification of material that EPA would otherwise have to require to
949 appear on the labels of agricultural pesticides. Thus its potential scope is as broad as EPA’s
950 labeling authority. While there may be some point at which a prospective provision might be so
951 tangentially related to the rest of the WPS that its inclusion in the WPS would cause excessive
952 confusion, that is not the case with the provisions included in today’s final rule.

953 In addition, this is not the first time that requirements included in the WPS have served
954 purposes beyond the protection of agricultural workers and handlers. Section 170.210(a) of the
955 existing rule requires that “The handler employer and the handler shall assure that no pesticide is
956 applied so as to contact, either directly or through drift, any worker *or other person*, other than
957 an appropriately trained and equipped handler” (emphasis added). Section 170.234(c) of the
958 existing rule requires that, among other things, when application equipment is sent to non-

handlers for repair, the handler employer must assure that pesticide residues have been removed, or else warn the person who would perform the repair. The handler training point on environmental concerns from pesticide use already appears in the existing rule at 40 CFR 170.230(c)(4)(xi). In response to a similar comment on the proposal that resulted in the existing regulation, EPA stated:

One comment questioned the relevancy of environmental information in worker protection training. The Agency believes such training is relevant to worker protection. Many environmental concerns are applicable not only to the organisms in the environment, but also to workers and other persons who may be in that environment. Ground and surface water warnings, for example, are designed not to protect only aquatic organisms, but to protect workers and other persons who may be using the water for drinking, cooking, bathing, etc. The Agency notes that FIFRA defines “environment” as including “water, air, land, and all plants and man and other animals living therein, and the interrelationships which exist among these.” (7)

The final rule retains the requirement for handler training on environmental concerns related to pesticide use from the current WPS.

EPA does not agree that the training topic requiring handlers to receive instruction on proper application and use of pesticides is only appropriate for noncertified applicators making application under the direct supervision of a certified applicator. First, handlers routinely apply pesticides, and misapplication of pesticides can result in injury to persons covered by the WPS, including workers and handlers. Training on proper use can help prevent such misapplication and consequent exposure to people. Second, relying solely on the training of noncertified applicators

under direct supervision would cover only applicators using Restricted Use Products (RUPs), and many agricultural use products covered by the WPS are not RUPs. To ensure that handlers under the WPS have the training to apply pesticides properly, it is necessary for them to be trained on proper use. The final rule includes the handler training topic requiring information on proper application and use of pesticides.

EPA does not agree with the commenters that requirements for handlers to understand the format and meaning of information on labels and to follow labeling directions are only appropriate for noncertified applicators applying under the supervision of certified applicators. To properly handle agricultural pesticides covered by the WPS rule, handlers need to understand the information on the labeling related to safe use of the pesticide and follow the use instructions. Use of a product in a manner inconsistent with the labeling may cause injury or illness to the handler and to others. For a more detailed discussion of the comments and EPA's responses on issues related to labeling, see Unit XVIII.A.

E. Exception to Full Pesticide Safety Training for Workers Prior to Entry into Treated Areas (Grace Period).

1. Current rule and proposal. Except for workers entering treated areas during an REI, the existing WPS permits the agricultural employer to delay providing full pesticide safety training until the end of the fifth day after the worker's entry into a treated area, often called the "grace period," provided that the worker receives training in a basic set of two safety points before entering the treated area (i.e., an area that has been treated or where an REI has been in effect within the last 30 days). Under this exception, the worker must receive the full safety training on the content outlined in the rule prior to the sixth day of entry into a treated area. EPA proposed to shorten the "grace period" to two days, require that full training take place before the

third day of entry into a treated area, and expand the basic set of safety information to be provided prior to the worker's first entry into a treated area under the "grace period."

2. *Final rule.* EPA has eliminated the "grace period" entirely. The final rule requires employers to ensure that workers receive full pesticide safety training before entering a treated area (i.e., an area that has been treated or where an REI has been in effect within the last 30 days).

3. *Comments and responses.*

Comments. Few commenters supported the proposed two day grace period coupled with the expanded basic safety points prior to first entry. Many agricultural producer organizations requested that EPA retain the five day grace period in the existing rule, stating it is needed for flexibility in scheduling training sessions as workers arrive at various times on the establishment. Several farmworker advocacy organizations and two states recommended elimination of the grace period entirely. One state recommended, as an alternative, adoption of the two day grace period with reduced material relative to the proposal required prior to first entry. Farmworker advocacy organizations that supported the elimination of the grace period cited the importance of workers having full safety information prior to entering an area with pesticide residues. One state that supported the elimination of the grace period expressed concern that this change would heighten concerns about the number of qualified trainers in the event that EPA would follow through on its proposal to make certified applicators ineligible to train workers.

EPA Response. While EPA recognizes the need for agricultural employers to have flexibility in scheduling training sessions for workers, EPA remains convinced that the elimination of the grace period is reasonable. The full pesticide safety training provides information that workers need to have before their exposure to pesticide treated areas so they can

1028 protect themselves. Moreover, the timing of training in the final rule aligns with the safety
1029 standard for occupational safety training in other industries under OSHA, which requires that
1030 workers are informed of potential hazards in the workplace before beginning work. EPA has
1031 decided that the cost of eliminating the grace period is reasonable when compared to the benefit
1032 from workers receiving the complete pesticide safety training before their first exposure to
1033 pesticides.

1034 EPA acknowledges concerns raised by agricultural producer organizations and states that
1035 eliminating the “grace period” combined with the proposal to limit who is qualified to conduct
1036 worker training could result in an inadequate number of people available to provide worker
1037 training. EPA has decided to retain certified applicators as trainers of workers (see Unit V.D.).
1038 As a result, EPA expects that there will be an adequate number of trainers to provide full
1039 pesticide safety training for workers prior to their entry into treated areas.

1040 *F. Training Program Administration Requirements*

1041 *1. Current rule and proposal.* Under the existing WPS, pesticide safety training must be
1042 presented either orally from written materials or in audiovisual format. The information must be
1043 presented in a manner that the worker or handler can understand, and the trainer must respond to
1044 questions, but the existing rule does not require the trainer to be present for the entire training
1045 period. EPA proposed to retain the requirement to provide training in an oral and audiovisual
1046 format, to require that the trainer remain present throughout the training session, and to require
1047 that the training be presented in a place that is conducive to learning and reasonably free of
1048 distractions.

1049 *2. Final rule.* EPA has finalized the proposed requirements for the presentation of
1050 training. Trainers of workers and handlers must remain present during training sessions to

1051 respond to questions. The training environment must be conducive to training and be reasonably
1052 free of distractions, to help ensure training quality. The final rule retains the existing requirement
1053 for pesticide safety training to be delivered either orally from written materials or by audiovisual
1054 means.

1055 The final regulatory text for these requirements is available at 40 CFR 170.401(c)(1) and
1056 170.501(c)(1).

1057 *3. Comments and responses.*

1058 Comments on use of videos. Some farmworker advocacy organizations endorsed the use
1059 of videos, stating that when used they enhance understanding of the material, especially when
1060 combined with hands-on activities or other kinds of learning approaches. Other farmworker
1061 advocacy organizations stated that there is a lack of interaction between the trainer and the
1062 employees trained using a video, resulting in reduced information transfer. Agricultural producer
1063 organizations and states also supported the use of the video, citing ease of use, and effectiveness.
1064 Many commenters from each category urged EPA to update the videos; a few suggested EPA
1065 evaluate different media presentations.

1066 EPA Response. EPA agrees with the commenters who consider videos to be effective and
1067 useful training material. EPA recognizes that a video is a passive form of training, and has added
1068 the requirement for the trainer to be present to answer questions during the entire session to
1069 mitigate this problem. EPA also expects the requirement for the training to be in a location
1070 reasonably free of distractions to improve the ability of workers and handlers to absorb and
1071 retain information.

1072 Comments on the requirement for trainers to remain present during entire training
1073 session. Farmworker advocate organizations and another commenter supported the proposal for

trainers to remain present during the entire training, citing the need for them to be interactive with workers to enhance the training and facilitate discussion. One commenter, experienced in providing pesticide safety training, noted that the interaction with trainees, through hands-on training and sharing of experiences, was effective. Agricultural producer organizations opposed the requirement, stating that it would be distracting for the video to be interrupted for questions, and there would be lost time for the trainer. One commenter suggested it would lead to larger training conferences that would discourage post-video interaction. Some states opposed the requirement for the trainer to be present throughout the training; one state recommended that the trainer only needs to be available before and after the training if a video is used.

EPA Response. EPA agrees that having trainers present during the entire training program could facilitate discussion and promote interaction. EPA disagrees that the questions for the trainer would be disruptive to the training. A 2006 study (Burke) cited interactive training activities as a best practice for supporting training transfer. EPA is convinced that the trainer's presence during the video enhances the training by enabling questions and discussion during the presentation. (8)

Comments on the requirement for the training environment to relatively free of distractions and conducive to learning. The commenters were mostly in agreement that the learning environment needs to have minimal distractions and be conducive to learning. Farmworker advocacy organizations and public health organizations supported the proposed requirement as a way to improve the learning environment. Two farm bureaus suggested allowing the trainer to be absent during the video, and to have a supervisor present to ensure the quality of the training environment. One state supported the proposed requirement for the training to be conducted in an environment free of distractions. Finally, one agricultural

1097 organization described the environment where their workers receive training as taking place
1098 either on or outside their transportation bus or in the field, and noted that the low number of
1099 incidents is evidence that the training is effective.

1100 EPA Response. EPA agrees that the requirement for the training environment to be
1101 reasonably free from distractions and conducive to training would make it easier for workers and
1102 handlers to learn. As discussed immediately above, EPA disagrees with comments requesting
1103 that EPA eliminate the requirement for the trainer to be present throughout the training. The
1104 proposal and final rule establish requirements for the training location; the ultimate responsibility
1105 for ensuring the requirements are met rests with the employer. EPA recognizes that there are
1106 challenges in locating environments in agriculture that are quiet and present few distractions;
1107 classrooms are rarely convenient. However, EPA is requiring employers to provide a training
1108 environment that is reasonably free from distractions and conducive to training. EPA notes that
1109 the final rule does not prohibit providing training in any specific location, such as on or outside a
1110 bus, as long as the environment is reasonably free from distraction and conducive to training.

1111 *G. Require Employers to Provide Establishment-Specific Information to Workers and Handlers*

1112 *1. Current rule and proposal.* The existing WPS does not clearly require employers to
1113 provide to workers and handlers establishment-specific information on the location of
1114 decontamination supplies or hazard information as part of their pesticide safety training. EPA
1115 proposed that in addition to required pesticide safety training, employers must provide workers
1116 and handlers with establishment-specific information about the location of decontamination
1117 supplies and pesticide safety and hazard information, as well as how to obtain medical
1118 assistance. EPA proposed that agricultural and handler employers would be required to provide
1119 this establishment-specific information to all workers and handlers, including those previously

1120 trained on other establishments.

1121 2. *Final rule.* EPA has finalized the proposed requirement for employers to provide
1122 establishment-specific information to workers and handlers. The final rule requires employers to
1123 provide establishment-specific information for workers and handlers when they enter the
1124 establishment and before beginning WPS tasks in areas where within the last 30 days a product
1125 requiring compliance with the WPS has been applied or an REI has been in effect. Content for
1126 the establishment-specific information includes the location of the pesticide safety information,
1127 the location of pesticide application and hazard information, and the location of decontamination
1128 supplies. Employers are required to provide this information in a manner that the worker or
1129 handler can understand, such as through a translator, and prior to the worker or handler
1130 performing activities covered by the WPS. Lastly, this information is required even if the
1131 employer can verify that the worker or handler has already received the general pesticide safety
1132 training on another establishment, because the information required is specific to each
1133 establishment. The final regulatory text for these requirements is available at 40 CFR 170.403
1134 and 170.503(b).

1135 3. *Comments and responses.*

1136 Comments. Commenters largely supported the addition of the establishment-specific
1137 training, with some noting that it is currently being provided voluntarily.

1138 EPA Response. EPA agrees with the commenters that the establishment-specific training
1139 is necessary for workers and handlers to know where to find information on the establishment to
1140 protect themselves from pesticides and their potential effects. EPA notes that some of this
1141 information is required under the existing rule. However, EPA is convinced that consolidating
1142 the requirements for establishment-specific training will make them easier for employers to find

and comply with, resulting in a higher likelihood that workers and handlers will receive the necessary information.

H. Costs and Benefits of Revisions to Pesticide Safety Training

1. Costs. EPA estimates the cost of changes to pesticide safety training for workers and handlers, including increased frequency, expanded content, recordkeeping, eliminating the “grace period,” changing who is qualified to conduct training, and amending training program administration requirements would be \$29.9 million annually and range from approximately \$62 to \$80 per agricultural establishment per year. For a complete discussion of the costs see the “Economic Analysis of Final Revisions to the Worker Protection Standard.” (1)

2. Benefits. While EPA can estimate the costs of the changes to pesticide safety training for workers and handlers, quantifying the benefits is more difficult. Nonetheless, as explained in the NPRM, it is reasonable to expect that more frequent training would lead to better retention of information by workers and handlers, ultimately resulting in fewer incidents of pesticide exposure and illness in workers and handlers, improved decontamination procedures, reduced take-home exposure, and better protection of children. Similarly, providing workers with training before they enter a treated area will give them tools they need to protect themselves before they encounter pesticides as part of their occupation. Improving the quality of worker training by limiting trainers to persons who have completed a train-the-trainer course, are certified applicators under Part 171, or have been designated by the regulatory agency responsible for pesticide enforcement as a trainer of workers, handlers or certified applicators is expected to advance worker comprehension of the safety principles and result in better self-protection. Finally, enhancing the quality of the training environment and ensuring that there is a knowledgeable person available throughout the training session to respond to questions will

improve the ability of the trainee to retain the information.

The expansion of information provided in the training will enable workers and handlers to better protect themselves and their families, by increasing their knowledge of how to reduce take-home residues from treated areas. The training gives practical information that is useful to everyone who works with or around agricultural pesticides.

The requirement for recordkeeping is an important element of the training requirement. Although in itself not a protective factor, it will support the determination of compliance when partnered with worker and employer interviews and therefore promote adherence to the requirements. In the final rule the employer must provide the record to the worker or handler upon request. The burden of providing copies of training records will be offset by the reduction in the number of trainings that would otherwise have to be provided to workers and handlers who have already been trained at another establishment.

VI. Notification

A. Posted Notification Timing & Oral Notification

1. Current rule and proposal. The current WPS requires agricultural employers to notify workers about pesticide applications and areas on the agricultural establishment subject to an REI. Notification is required when workers or handlers are on the establishment during application or the REI and will pass within one-quarter mile of the treated area. On farms, and in forests and non-enclosed nurseries (referred to as “outdoor production” in the proposal) the agricultural employer may choose either to post warning signs at the usual points of entry around the treated area or to notify workers orally about applications that will take place on the establishment. In greenhouses and some other enclosed establishments (referred to as “enclosed space production”), the agricultural employer must post warning signs for all applications,

1189 regardless of the product's REI. In cases where the product labeling requires both written and
1190 oral notification of workers, the WPS also requires this "double notification."

1191 For outdoor production, EPA proposed requiring agricultural employers to post warning
1192 signs where the pesticide to be applied has an REI greater than 48 hours, and to allow the option
1193 of oral warning or posted notification for products with an REI of 48 hours or less. For enclosed
1194 space production, EPA proposed requiring posting of warning signs only when the product
1195 applied has an REI greater than four hours, and to allow the option of oral warning or posted
1196 notification for products with an REI of four hours or less.

1197 2. *Final rule.* EPA has finalized the proposed requirements to post warning signs for all
1198 "outdoor production" when a product with an REI longer than 48 hours is used, and to allow
1199 either oral or posted warnings for "enclosed space production" when a product with an REI of 4
1200 hours or less is used. The final regulatory text for these requirements is available at 40 CFR
1201 170.409(a)(1)(ii)-(v). The final rule eliminates the existing requirement for employers to take
1202 down posted warning signs within three days of the expiration of the REI, but prohibits worker
1203 entry into the area until the posted warning signs have been removed. The final regulatory text
1204 for this prohibition is available at 40 CFR 170.409(b).

1205 3. *Comments and Responses.*

1206 Comments. Many states and some farmworker advocacy organizations and public health
1207 organizations supported the "field posting" and notification requirements as proposed. They
1208 noted the potential benefit to workers and employees of crop advisors of mandatory posting for
1209 the most toxic pesticides. They agreed with EPA's assessment that additional posting would
1210 provide added protection for workers while placing a minimal burden on employers.

1211 Several grower associations and farm bureaus supported the proposed change in

notification requirements for indoor production but opposed the proposal for additional posting for outdoor production. They noted that signs can be destroyed, removed, or relocated and that agricultural producers may not return to some fields more than once per week. One grower association specifically requested that EPA clarify how enforcement would address these challenges without inappropriately penalizing agricultural employers. This group stated that workers are fully capable of understanding oral notification and suggest focusing instead on reinforcing the existing oral notification. Several grower organizations also did not agree that EPA justified the cost of the proposal with the benefits.

Farmworker advocacy organizations suggested a number of alternatives, including requiring both posting signs and providing oral warnings for all pesticide applications, or at a minimum for those pesticides with an REI of 12 hours or more. Some farmworker advocacy organizations suggested mandatory posting of any treated area subject to an REI greater than 24 hours, and others requested that EPA require mandatory posting of any treated area subject to an REI. They reiterated EPA's rationale that oral notification of pesticide application information is difficult to recall over multiple days, that oral notification may not be clearly communicated due to multiple language barriers and that it is difficult to verify whether oral notification was in fact given.

EPA Response. EPA considered the comments submitted and agrees that increasing workers' awareness of treated areas will lead to an overall reduction in occupational pesticide-related illnesses at reasonable cost.

EPA disagrees with comments that suggest oral notification alone would provide sufficient notification to workers and agrees with comments that support increased posting requirements. As noted in the proposal for this rule, research has shown that oral instruction

alone may not be an effective method of safety instruction. EPA is aware that compliance with the posting requirement for outdoor production could require some establishments to change their business practices or monitor posted fields more often.

EPA considered additional posting requirements presented by farmworker advocacy organizations and was not convinced that the increased cost to employers to post all treated areas, or to post areas treated with products with REIs of 12 hours or greater, or 24 hours or greater would result in significantly more increased protections than the requirement to post areas treated with products with an REI of 48 hours or greater. EPA concluded that it is reasonable to expect workers to remember oral warnings regarding REIs for two work days, or about 48 hours total.

4. Costs and benefits. EPA estimates the annual cost of posting treated areas under an REI of more than 48 hours and allowing oral notification for indoor production applications of products with an REI of 4 hours or less to be \$10.4 million annually, with the per establishment cost of \$33, and finds this cost to be reasonable in comparison to the benefit to workers to avoid pesticide illness by remaining out of treated areas under an REI.

B. Revise Content of Warning Sign

1. Current rule and proposal. The existing WPS requires agricultural employers to post warning signs with the words “DANGER,” “PELIGRO,” “PESTICIDES” and “PESTICIDAS,” at the top of the sign, and the words “KEEP OUT” and “NO ENTRE” at the bottom of the sign. A circle containing an upraised hand on the left and a stern face on the right must be near the center of the sign. EPA proposed replacing “KEEP OUT” and “NO ENTRE” with “Entry Restricted” and “Entrada Restringida,” and changing the shape containing the face and hand to an octagon (similar to a stop sign).

1258 2. *Final rule.* EPA has decided not to change the text or graphic of the existing warning
1259 sign. The final regulatory text for the warning sign content is available at 40 CFR 170.409(b)(2).

1260 3. *Comments and responses.*

1261 Comments. Two states and several grower organizations supported the proposed changes
1262 on the grounds that "Entry Restricted" would be less confusing to workers than "KEEP OUT,"
1263 since entry is allowed under certain circumstances. Many more state, farmworker advocacy
1264 organizations, and public health organizations opposed changing the existing warning sign.
1265 Those commenters asserted that "KEEP OUT" sends a much clearer message than "Entry
1266 Restricted," particularly to people with lower levels of literacy. They noted that the term
1267 "Entrada Restringida" is not common in Spanish, which is the dominant first language of
1268 farmworkers in the U.S., whereas "KEEP OUT" is simple and well understood even by people
1269 who do not speak or read English. Commenters pointed to standard readability test results
1270 confirming that "KEEP OUT" is easily understood by most six-year-olds, while "Entry
1271 Restricted" is placed at the grade 12-13 reading level and would be beyond the reading and
1272 comprehension level of the majority of farmworkers in the U.S.

1273 A number of states commented that the existing sign is sufficient. They noted that
1274 although "Entry Restricted" is more accurate, it would be a costly change for growers that may
1275 lead to confusion and not be more protective than the language on the existing warning sign.
1276 States also commented that 20 years of training and experience with the current sign is what
1277 makes it effective for keeping workers out of fields under an REI. The states and farmworker
1278 advocacy organizations agreed that for the predominantly low-literacy population of
1279 farmworkers, a simpler message, along with training on the message, is more protective than the
1280 proposed wording for the warning sign.

1281 EPA Response. EPA was persuaded that the proposed changes to the warning sign would
1282 be costly for employers and not increase protections for workers as much as expected. A
1283 significant factor in EPA’s decision was the additional information presented in public comments
1284 regarding the potential lack of understanding of the term “Entrada Restringida.” EPA was
1285 convinced that eliminating the existing language, “KEEP OUT,” in favor of a technically more
1286 accurate sign would be less protective for the majority of workers. The goal of the warning sign
1287 is to keep workers out of areas that are treated with certain pesticides. Entry into these areas is
1288 prohibited while the REI is in effect with a few narrow exceptions. Workers that are directed to
1289 enter treated areas under an REI and/or areas where the warning sign is posted must have
1290 received pesticide safety training, be provided additional protections, and be informed that their
1291 entry is subject to the limitations established for early entry exceptions in the regulation. Because
1292 EPA expects that the majority of workers would never enter treated areas during an REI, because
1293 20 years of training and experience have familiarized workers with the message and intent of the
1294 sign, and because EPA has added additional training and protection for workers entering treated
1295 areas while an REI is in effect, EPA agrees with commenters that the easily understood message
1296 of “KEEP OUT” is most appropriate.

1297 *4. Costs and benefits.* Since the final rule does not change the requirement in the existing
1298 rule, there are no costs associated with this decision.

1299 *C. Warning Sign Location Revisions*

1300 *1. Current rule and proposal.* Under the existing rule, when signs are required for
1301 applications in outdoor production, they “shall be visible from all usual points of worker entry to
1302 the treated area, including at least each access road, each border with any labor camp adjacent to
1303 the treated area, and each footpath and other walking route that enters the treated area.” EPA

proposed maintaining the existing posting requirement for outdoor production and clarifying the language to require posting be visible from “each border with any worker housing area within 100 feet of the treated area,” rather than “labor camps adjacent to the treated area.”

2. Final rule. EPA has finalized the proposed changes to the warning sign location requirements for outdoor production. The final regulatory text for this requirement is available at 40 CFR 170.409(b)(3)(ii).

3. Comments and responses.

Comments. Several states, grower organizations, and farmworker advocacy organizations supported the proposal and agreed that it would support EPA’s goal of increasing clarity of the rule and enhance the ability of employers to understand their responsibilities under the regulation. Commenters in support of the change noted that “adjacent” is a vague term that may be interpreted differently by different people and that “labor camp” is too limited and does not technically include worker housing. They noted that clearer posting requirements could lead to better compliance and thus be a better system for keeping people living in close proximity to treated fields safe.

Some pesticide manufacturers opposed the proposal on the grounds that it is an overly prescriptive, costly, and unnecessary provision which would not provide additional protection above that already provided by the label and existing WPS.

A public health organization proposed adding pesticide application information and REIs to the posting requirement near worker housing areas. One state suggested revising the language by stating “Each border with any worker housing area provided by this establishment/employer within 100 feet of the treated area.”

EPA Response. EPA was not persuaded by the comments that the requirement would be

a significant additional burden on employers. The requirement only clarifies where employers need to post warning signs but does not increase posting requirements beyond what was intended in the existing regulation. EPA agrees with commenters who noted that increased clarity on posting requirements will lead to better compliance and increase awareness of treated fields by workers who live near treated areas.

4. Costs and benefits. Because this change only clarifies an existing requirement, the cost, if any, would be negligible.

VII. Hazard Communication

A. Hazard Information – Location and Accessibility

1. Current rule and proposal. The existing WPS requires employers to record information about pesticide applications and display it at a central location on the establishment when workers or handlers are on the establishment and an application of a pesticide covered by the WPS has been made or an REI has been in effect within the past 30 days (referred to as the “central display” requirement).

EPA proposed to replace the existing requirement for the information to be located at the central display with a requirement for employers to make the required application and hazard information accessible upon request by workers, handlers or their authorized representatives.

2. Final rule. EPA has decided not to finalize the proposal. The final rule generally retains the existing requirement related to the location of the pesticide application and hazard information; the employer must display this information at a place on the establishment where workers or handlers are likely to pass by (i.e., the “central display”). This information must be provided when workers or handlers are on the establishment and an application of a WPS-covered pesticide has been made or an REI has been in effect within the past 30 days. The final

regulatory text for this requirement is available at 40 CFR 170.311(b)(2). The final rule makes some changes to the content of the required application information and when it must be posted, as explained in Units VII.C and VII.D.

3. Comments and responses.

Comments. The overwhelming majority of comments requested EPA to keep the existing central display requirement. Many commenters from farmworker advocacy organizations, public health organizations, states, and some members of Congress noted that they thought it was unreasonable and unrealistic to think a vulnerable population such as workers and handlers would request hazard information from their employers. These commenters cited many reasons for this position, including barriers (e.g., language differences, concern about compromising their immigration status, and fear of retribution, retaliation or job loss) and the power and social dynamics between employer and employee. These commenters were adamant that workers and handlers needed ready, anonymous, unhampered access to hazard information as currently provided through the central display requirement.

Many of the commenters in favor of keeping the existing requirement explained that a central display requirement that provides information about general pesticide safety, including symptoms of pesticide illness, and the specific pesticides used on the establishment, is necessary to protect the health of workers and handlers. First, having information available in non-emergency situations could help workers and handlers be aware of symptoms before they occur, help them avoid exposure, and possibly enhance the reporting of illnesses. Secondly, they stated that emergency medical personnel would not have to lose critical time tracking down information instead of treating the ill or injured person if they could rely on accessing the information quickly from the central display.

EPA also received comments from one pesticide manufacturer organization, a couple of states and some farm bureaus in favor of the proposal to eliminate the existing requirement for a central display of pesticide application information. These commenters agreed with EPA's observations in the preamble to the proposal that this requirement imposes a paperwork burden and that states often cite employers for technical violations of the display requirement. The commenters stated it is difficult to keep the displayed information current when application plans change, especially on large establishments. They also noted the difficulty keeping information legible when it is displayed at a central location subject to weather conditions. These commenters encouraged EPA to eliminate the existing requirement, not to finalize the proposed requirement, and to require employers to only keep records of pesticide applications on their establishment.

EPA Response. EPA agrees with those commenters who argued that workers and handlers must have relatively unhindered access to pesticide-specific information, and has decided to retain the central display requirement. Although the extent and type of barriers and employer-employee dynamics are unique to each situation, EPA recognizes that a significant number of workers and handlers face disadvantages that can reasonably be expected to make them hesitant to ask for information relating to their pesticide exposure from their employers. Consequently, EPA believes that it is not reasonable to make an employee's task of obtaining this information more difficult, particularly given the potential usefulness of the information if an employee thinks he may have been harmed by a pesticide. Therefore, EPA has decided to retain the requirement for the information to be displayed at a place on the establishment where workers and handlers are likely to pass by or congregate.

EPA recognizes, however, that there can be difficulties in complying with the central

display requirement. In response to comments about the difficulty of keeping accurate information posted, EPA has attempted to simplify the central display requirement by changing the required time frame for posting the application-specific information (see Unit VII.D.). EPA expects this modification to the requirement for the timing to post the application information will reduce the burden on employers, while providing employees with ready access to accurate information. In response to the comments about the difficulty of maintaining a legible central display when it is subject to weather conditions, EPA notes that the central display requirement does not mandate that employers post the information outdoors. The information must be displayed “where workers and handlers are likely to pass by and congregate and where it can be readily seen and read” and workers and handlers must be able to access the information at all times during work hours. This does not preclude the central display from being maintained in a location sheltered from weather conditions, such as a bathroom, break area, or changing area, as long as the requirements of this section are met.

B. Pesticide-Specific Hazard Communication Materials – General

1. Current rule and proposal. The existing WPS requires employers to provide workers and handlers with specific pesticide application information, but not pesticide-specific hazard information on the pesticides they may be exposed to in the workplace.

EPA proposed to require employers to provide workers and handlers with access to the SDSs and pesticide labeling for products that have been applied on the establishment and to which workers and handlers may be exposed, in addition to the pesticide application information already required to be made available.

2. Final rule. EPA has finalized the requirement for agricultural employers to display at a central location pesticide application information and SDSs for pesticide products used on the

establishment (referred to as “pesticide application and hazard information” in the final rule). EPA has not finalized the proposal to require employers to provide access to pesticide labeling. The final regulatory text for this requirement is available at 40 CFR 170.311(b)(2).

3. Comments and responses.

Comments on providing safety data sheets and pesticide labeling. EPA received many comments in favor of the proposed requirement. Although many farmworker advocacy organizations expressed support for a requirement that employers maintain both labeling and SDS and make them available to workers and handlers, few discussed the merits or drawbacks. Many farmworker advocacy organizations, public health organizations and academics, a grower organization and others supported a requirement to maintain and provide SDSs. Some of these commenters indicated that the information on a SDS would be helpful for the correct diagnosis and treatment of pesticide-related illnesses. Farmworker advocacy organizations explained that workers want more information on what pesticides are used and what they are exposed to, along with possible side effects. On the other hand, a few grower organizations, a farm bureau, a pesticide manufacturer organization and a couple of states were against a requirement to provide SDSs. These commenters argued that EPA had not made a case strong enough to justify why workers need SDSs. They also argued that the pesticide product label poses legally enforceable requirements on users, whereas SDSs do not.

Some farmworker advocacy organizations, public health organizations, a grower organization, a farm bureau and others thought it would not be much of a burden on agricultural employers to acquire the SDSs of pesticide products because they are easily available online or can be requested from the pesticide manufacturer or distributor. One farmworker advocacy organization gave the Washington State Employer Hazard Communication rule (EHC rule) as an

example of a requirement for employers to make SDSs available to employees that is feasible. <http://www.lni.wa.gov/IPUB/413-012-000.pdf>. The Washington State EHC rule applies to employers with one or more employees who handle OR are potentially exposed to hazardous chemicals, including pesticides, in their workplace. It requires employers to make SDSs for each chemical that employees may encounter readily accessible and easily obtained without delay during each work shift, and to ensure that employees traveling between workplaces during a work shift can immediately obtain the SDS in an emergency. In contrast, a couple of grower associations stated that it is overly burdensome for agricultural employers to get SDSs. One state thought it would be difficult for employers to locate the correct SDS for pesticide products. They also noted that small businesses and private applicators will have the most difficulty since they are not already accustomed to keeping SDSs.

EPA received some comments both for and against providing pesticide product labeling. Many farmworker advocacy groups supported a requirement for the employer to provide the labeling. These commenters maintained that workers and handlers want more information on chemicals to which they may be exposed. On the other hand, farm bureaus, growers and grower organizations and states opposed a requirement to provide the labeling. These commenters expressed concern that EPA is expanding its mandate by requiring agricultural employers to provide the product “labeling” when it should be limited only to the WPS portions of the “label.” These commenters argued that an agricultural employer could easily violate this requirement by not having the most current or correct version of the labeling, such as a specimen or technical label.

EPA Response. After consideration of the comments, EPA remains convinced that access to SDSs offers significant health and safety benefits to workers and handlers. SDSs contain

information that is not generally included in pesticide labeling regarding chronic, developmental, and reproductive toxicity that can be valuable to exposed and potentially exposed workers, and to medical personnel and others who provide treatment to an ill or injured person. Moreover, given the ubiquity of chemicals subject to the OSHA Hazard Communication Standard that mandates the development and distribution of SDSs, it is likely that many health care professionals are more familiar with SDSs than pesticide labeling. Requiring the SDS as part of the central display facilitates a quicker identification of the pesticide product used in case of an incident and may help assist in diagnosis. The SDS contains information about symptoms expected in a person exposed to the chemical (immediate, delayed and chronic effects) as well as recommended treatment, whereas the label may not include detailed information on symptoms or treatment. EPA recognizes that state pesticide regulatory agencies do not review, approve, or take enforcement action based on the information in SDSs. However, workers and handlers and their advocates indicate that workers and handlers want to have more information on health effects, which is available on SDSs and generally not available on the pesticide labeling. OSHA is requiring that all SDSs be in a standard format, making it easier to locate health information. 77 FR 17574, March 26, 2012. Accordingly, EPA concludes that a requirement to post SDSs is an effective way to communicate pesticide hazard information important to workers and handlers. EPA notes that under the final rule workers and handlers will learn during pesticide safety training about SDSs, the information they contain, and their availability at central display locations. This addition to the training will further reinforce workers' and handlers' awareness and potential use of SDSs.

EPA is persuaded that access to SDSs is not a significant obstacle to requiring agricultural employers to keep and display SDSs for pesticide products used on the

establishment. Agricultural employers can obtain SDSs from the distributor of the pesticide, online, or upon request from the product manufacturer. For example, employers in industries other than agriculture – including retailers and wholesalers of agricultural chemicals - are required by the OSHA Hazard Communication Standard to make available SDSs to their employees.

Upon consideration of the comments, EPA has decided not to require agricultural employers include the pesticide product label or labeling as part of the central display requirement. EPA recognizes the burden on employers to provide both the SDS and label or labeling in addition to the pesticide application information. As noted above, the SDS contains the health-related information requested by workers, handlers, and their advocates, and that would be most useful to persons providing treatment to those who may have been exposed to pesticides. EPA agrees that if necessary, the labeling for a product used for a specific application can be located using the application-specific information that employers are also required to post. See Unit XVIII.A. for a complete discussion of comments related to labels and labeling.

Comments on the extent of the requirement. EPA received comments both to narrow and to expand the scope of the proposal requiring employers to maintain SDSs and make them available to employees. Among the suggestions to narrow the scope of the proposal, one state suggested EPA keep a central repository of SDSs for agricultural employers to access and require employers to keep the SDS only while the associated pesticide product remains on the establishment. Farmworker advocacy organizations and public health organizations recommended expanding the proposed requirement to a full Hazard Communication Standard as required by the Washington State ECHC for all hazardous chemicals, which requires employers to develop a written Hazard Communication program, maintain availability and access to SDSs,

1511 provide information and training on hazards in the workplace, translate certain documents upon
1512 request, and keep and provide access to exposure records for at least 30 years.

1513 Many farmworker advocacy organizations suggested that EPA require SDSs to be
1514 available in multiple languages and provided two examples of similar requirements. First, one
1515 farmworker advocacy organization cited the Migrant and Seasonal Agricultural Protection Act of
1516 the DOL, which requires written information on the terms of employment to be provided in
1517 English, Spanish or other language common to workers. Second, one farmworker advocacy
1518 organization claimed that in Washington State, agricultural employers are required to provide
1519 translated documents if requested. Farmworker advocacy organizations asserted that it would be
1520 easy to translate SDS because of the standard format required by OSHA's adoption of the
1521 Globally Harmonized System of Classification and Labeling of Chemicals. One pesticide
1522 manufacturer organization was opposed to translating the SDS because of the many indigenous
1523 languages present among workers.

1524 EPA Response. After reviewing the comments, EPA has decided on an approach that will
1525 provide workers and handlers with more information about the potential health effects associated
1526 with the pesticides to which they may be exposed without overly burdening agricultural
1527 employers. Obtaining the SDSs for products used on the establishment should not be overly
1528 burdensome to employers; SDSs are available from pesticide dealers and the internet. It would
1529 be a significant undertaking for EPA to identify and locate the SDSs of all WPS-scope pesticide
1530 products. Such a project could be accomplished over time by crops, plant groups and regions,
1531 with the identification of products and assistance from stakeholders and the regulated
1532 community. As an alternative, stakeholders such as grower organizations could voluntarily
1533 develop SDS repositories with assistance from members. Voluntary programs of this sort would

involve a limited subset of all WPS-scope pesticide products and could possibly be accomplished within a short period in comparison to a national, full-scale repository program.

EPA has decided not to reduce the amount of time the SDS must be available. The cost of retaining the SDS, once obtained, is negligible. Employees and medical personnel could benefit from access to the health effects information in the SDS in case of symptoms that develop sometime after the application has been completed.

EPA disagrees with commenters' request to adopt a full hazard communication proposal as required by the Washington State ECHC for all hazardous chemicals. The full set of the WPS requirements in the final rule provide protections similar to those provided to workers in other industries under OSHA's Hazard Communication Standard program, while recognizing differences between agriculture and other industries. As discussed in the August 21, 1992 Federal Register Notice proposed rule on the Worker Protection Standard; Hazard Information, in response to numerous concerns about potential overlap or conflict between EPA's July 1988 proposal of the WPS (53 FR 25970) and OSHA's Hazard Communications Standard published in August 1988 (53 FR 29822), EPA committed to work with OSHA to minimize confusion and avoid duplication between the two agencies' requirements. Rather than require agricultural establishments that may not routinely use the same pesticides to develop and maintain a written Hazard Communication Standard plan listing all chemicals that will be used in the workplace, EPA's approach, in both the 1992 proposed rule on Hazard Information (57 FR 38167) and this final rule, has been to identify specific requirements, tailored to fit the context of pesticide use in agricultural production that serve a purpose similar to the Hazard Communication Standard requirements in other industries. These requirements include pesticide safety training, display of basic pesticide safety information, notification or posting of treated areas, and access to

information about pesticides used in the workplace at a central location. EPA notes that the WPS does not exempt employers with 10 or fewer employees, unlike OSHA's Hazard Communication Standard. EPA also notes that the cost of developing and implementing a full hazard communication program specific to each establishment could be burdensome to small agricultural establishments.

Lastly, although EPA is not requiring that SDSs be translated at this time, EPA is open to conferring with stakeholders on the need for translation, identifying content to be translated, and implementing a translation program, if necessary. EPA notes that some pesticide manufacturers already make pesticide product SDSs available in Spanish.

Comments on other forms of hazard communications materials. Many farmworker advocacy organizations suggested EPA develop and provide crop sheets, booklets, or other types of materials that describe the health effects of pesticides, either in lieu of or in addition to the SDS. These commenters identified a need for a pictorial booklet designed for low-literacy audiences on the health effects from exposure to pesticides, based on the information in SDSs. One state suggested that a small booklet with basic pesticide exposure symptoms by classes of chemicals or modes of action, described in layman's terms would be more helpful to workers than SDSs. One pesticide manufacturer organization opposed the development of crop sheets.

EPA Response. EPA agrees with the basic concept of providing workers and handlers with information on the health effects of pesticides for workers and handlers in a manner they can understand. Pesticide safety training and the pesticide information display provide workers and handlers with information on the symptoms that may be associated with exposure to different pesticides. If workers or handlers need information about the specific effects of a pesticide with which they have worked, they can consult the SDS. However, EPA does not agree

with the commenters' request to require crop sheets or similar materials because, in EPA's judgment, the benefits of such a requirement would not justify the substantial costs associated with creating, updating, translating and distributing materials for every crop, growing region, and WPS-scope pesticide product. As noted in the proposal for this rule, crop sheets and other types of material have been developed in the past, with very limited success. For example, one state's crop sheet program proved to be expensive and labor intensive, and the crop sheets were left as litter in the fields, unused. SDSs already contain information about the potential health effects (acute, delayed, and chronic) associated with use of formulated pesticide products and will be readily available in a uniform format, including provide hazard information in words and in pictograms.

Comments on inconsistencies in information between labels and SDSs. A pesticide manufacturer organization opposed any requirement by EPA to provide SDSs to worker and handlers upon request. This commenter expressed concern about the confusion that may be caused by inconsistencies between pesticide labels and SDSs. OSHA requires manufacturers to use GHS terms and chemical classification criteria on SDSs whereas EPA does not require their use on pesticide product labels. As a result, SDSs and pesticide product labels could have different hazard statements, pictograms and signal words.

EPA Response. EPA has not finalized the proposed requirement for the employer to make available pesticide product labeling upon request. Instead, the final rule requires the employer only to display pesticide application information and SDSs for pesticide products used on the establishment. The SDS provides succinct information about the known health hazards of the product that typically is not presented as part of the product label or labeling. Such information can be invaluable to medical professionals for the diagnosis and treatment of certain

pesticide-related illnesses and injuries. Because EPA is not requiring the employer to display the labeling, EPA does not expect issues with a perception of conflict between labeling and SDSs. For information on OSHA's adoption of the Globally Harmonized System of Classification and Labeling of Chemicals for SDSs and the pesticide product labeling, see EPA's Pesticide Registration Notice (PRN) 2012-1, *Material Safety Data Sheets as Pesticide Labeling* (<http://www2.epa.gov/sites/production/files/2014-04/documents/pr2012-1.pdf>).

C. Pesticide Application Information – Content of Pesticide Application Information

1. Current rule and proposal. In the existing WPS, the agricultural employer must record and display the following information about each pesticide application: The location and description of the area to be treated, the product name, EPA registration number and active ingredient(s) of the pesticide product, time and date the pesticide is to be applied, and REI for the pesticide.

EPA proposed to require the agricultural employer to record and make available, in addition to the information required in the existing regulation: The specific crop or site treated, the start and end dates and times of the application, and the end date and duration of the REI.

2. Final rule. EPA has finalized the proposed requirements for the contents of pesticide application information, with one change. The final rule requires agricultural employers to record and display the following pesticide application information: Product name, EPA registration number, and active ingredient(s) of the pesticide product applied; the crop or site treated and the location and description of the treated area; the date(s) and times the application started and ended; and the duration of the REI. The final rule does not require the employer to record the end date of the REI. The final regulatory text for this requirement is available at 40 CFR 170.311(b)(1)(ii)-(v).

The agricultural employer must record and display the information about the crop or site treated and the location of the treated area. EPA encourages employers to display the information in such a way that workers and handlers can distinguish one treated area from all other areas on the establishment, such as on a map or diagram.

EPA encourages and supports the provision and display of the application information so it is most useful to workers and handlers on the establishment. One such option is to separate the information about treated areas, so those areas where an REI is in effect are distinct from those where the REI has expired, allowing the viewer to more quickly identify areas where entry is restricted. Similarly, maps highlighting areas where an REI is in effect and those where the REI has expired could also present the information in a user friendly, pictorial manner. EPA also sees an opportunity for employers to provide information of this nature through texting and other electronic means to their employees, and encourages such communication, in addition to the requirement for maintaining this information as part of the central display.

3. Comments and responses.

Comments. Many farmworker advocacy organizations, a few pesticide regulatory agencies, a grower organization and others supported the proposed expansion of the content requirement for pesticide application information records. According to these commenters, it would be a small burden to require additional application information, such as crops treated, that could help workers proactively avoid exposure to pesticides. One state asked EPA to parallel the information required by USDA to avoid confusion, while another suggested that more information be required in addition to the information proposed to assist state pesticide regulatory personnel in determining compliance.

Several farm bureaus, one grower organization and several states opposed any changes.

1649 These commenters asserted that the content required by the existing regulation is already too
1650 burdensome. Several farm bureaus opposed EPA's proposed expansion of the content of records
1651 stating that EPA had not justified it with quantifiable benefits. A few states, two farmworker
1652 advocacy organizations and other commenters suggested various combinations of records limited
1653 to three or fewer pieces of information. One grower organization argued that only a record of the
1654 active ingredient is needed for medical treatment, while another questioned how a record of the
1655 REI benefits the health and safety of workers. Lastly, these commenters maintained that
1656 recordkeeping of general use pesticide applications is not required by law, the proposed
1657 requirement is duplicative of state and federal requirements, and commercial applicators already
1658 keep records.

1659 EPA Response. EPA agrees with the comments that adding more information to
1660 application records is a small burden compared to the benefits of determining compliance and
1661 giving workers and handlers information to verify the location of treated areas. The crop or site
1662 treated, start and end times and date(s) of the application, and duration of the REI are important
1663 for protecting worker and handlers and useful for determining compliance. Agricultural
1664 employers, compliance officers, workers, handlers and others will be able to calculate the end
1665 date and time of the REI by having the end date and time of the application and the duration of
1666 the REI included in the pesticide application information. The combined information will also
1667 help workers and handlers identify the areas where an REI is in effect. EPA did not propose
1668 requiring more information because the proposed content of application records fit the needs of
1669 stakeholders to determine compliance and to give workers and handlers the ability to discern
1670 which area had been treated. An arbitrary limit of only three or fewer pieces of would may not
1671 achieve the same benefits.

The WPS requires agricultural employers to maintain records because those records provide information that is important for the protection of their employees. While a significant number of agricultural employers may also be certified as private pesticide applicators, the WPS does not require private applicators to maintain records on account of their status as private applicators.

The risks of concern under the WPS include both RUPs and non-RUPs, while certification requirements at the federal level, including recordkeeping, only apply to those using RUPs. Neither the USDA application record requirements for private applicators of RUPs, nor state application record requirements for commercial applicators fully covers the information needed under the WPS for the protection of workers and handlers. The USDA required information does not include the active ingredients, duration of the REI or the start and end dates and times of applications, nor does it apply to applications of non-RUP pesticides. Commercial applicators would have to record the information required by the state pesticide regulatory agency, which must at a minimum include the kinds, amounts, uses, dates and places of RUP applications. 40 CFR 171.7(b)(1)(iii)(E). Also, state pesticide regulatory agencies may or may not require records of non-RUP applications. Therefore, it is unlikely that all states' commercial applicator RUP application records will match exactly the record requirements of the WPS. Because the records required to be maintained by USDA and the states do not include all of the information needed for protection of workers and handlers, it is appropriate to include such recordkeeping in the WPS.

D. Pesticide Application and Hazard Information –When Information Must Be Made Available

1. Current rule and proposal. In the existing rule, the agricultural employer must record and display the pesticide application information before the application takes place, if workers or

handlers are present on the establishment before the application begins. Otherwise, the information must be recorded and displayed at the beginning of any worker's or handler's first work period. If the employer posts warning signs for a treated area, the pesticide application information must be displayed at the same time as or earlier than the warning signs. The information must remain on display when workers are on the establishment and from the time of the application until 30 days after the REI expires or until 30 days after the application end date if the REI is 0 hours (or in the rare instance where a label might not have an REI).

EPA proposed to require the agricultural employer to provide the pesticide application information, the SDS and labeling upon request during normal work hours, no later than the end of the day.

2. Final rule. The final rule requires the agricultural employer to display the pesticide application information and the SDS (pesticide application and hazard information) at the central display no later than 24 hours after the application is complete. Also, the employer must display the pesticide application and hazard information for each treated area before any worker is permitted to enter the treated area, even if the applicable REI has expired. If workers will be in the area, they must be notified of the application before it starts, by posted signs or orally and warned not to enter the area. The application information and SDS must remain posted for 30 days from the expiration date of the REI or from the application end date if the REI is 0 hours (or in the rare instance where a label might not have an REI). EPA did not finalize the proposed requirement for the agricultural employer to make available the pesticide application information and the SDS no later than the end of the day of the application. The final rule eliminates the existing requirement to display the application information before or at the same time a warning sign is posted at a treated area. The final regulatory text for this requirement is available at 40

CFR 170.311(b)(5) and 40 CFR 170.309(l).

3. Comments and responses.

Comments. Several farmworker advocacy organizations and one public health organization requested that EPA keep the existing requirement to make information available before the application so workers and handlers would be able to connect symptoms to an application if the exposure occurred during the application. While many farmworker advocacy groups supported the display of information before an application, some expressed concern about the accuracy of the pesticide application information displayed when information about the application changed from what was planned and the displayed information was not updated. One farm bureau and one pesticide manufacturer organization requested that EPA require employers to make the information available after the application.

EPA Response. EPA agrees with the commenters that it is important to provide workers and handlers with accurate information about pesticide applications. Displaying the information after the application is complete benefits workers and handlers because they can be confident the information is correct, and the employer no longer has to change the information when application plans change. Under the final rule, EPA expects all displays of pesticide application information will contain accurate information. The final rule retains the requirement for workers to receive oral notification, or to see posted warning signs, or both before an application begins, informing them to stay out of an area before an application begins.

E. Pesticide Application and Hazard Information – Retention of Records

1. Current rule and proposal. The existing WPS requires employers to maintain pesticide application information at the central display from the time of application until 30 days after the REI expires. There is no requirement for the employer to retain the pesticide application

1741 information in any form after that time.

1742 EPA proposed to require employers to retain, for each application of a WPS-covered
1743 pesticide, the pesticide application information, labeling and SDS, for two years from the date of
1744 the end of the REI for each product applied.

1745 *2. Final rule.* The final rule requires agricultural employers to retain the pesticide
1746 application information and the SDS for the product used (pesticide application and hazard
1747 information) for two years from the date of expiration of the REI applicable to the application
1748 conducted. EPA has not included the proposed requirement for the employer to retain the
1749 pesticide labeling in the final rule. The final regulatory text for this requirement is available at 40
1750 CFR 170.311(b)(6).

1751 *3. Comments and responses.*

1752 Comments. EPA received comments supporting a two year recordkeeping requirement
1753 from several states and one grower organization. One state commented that it did not have a need
1754 for the information after one year, but that two years was not much more of a burden. Many
1755 farmworker advocacy and public health organizations requested EPA to require recordkeeping
1756 ranging from more than two years to as many as 30 years to help with the diagnosis of chronic
1757 health effects that could be related to pesticide exposure.

1758 Commenters from some farm bureaus and grower associations opposed a two-year
1759 recordkeeping requirement, in part because they asserted that EPA could not show quantifiable
1760 benefits. These commenters argued it would be a paperwork exercise without health and safety
1761 benefits driven based on the needs of enforcement, and instead should be replaced with a
1762 minimal, non-intrusive requirement. One commenter suggested requiring employers to keep
1763 records only during the harvest season.

EPA Response. EPA has concluded that a two-year record keeping requirement would be helpful for health diagnoses and investigation purposes. EPA considered requiring the retention of records for five years and asked state pesticide regulatory agencies about their needs for access to pesticide application records. These enforcement agencies informed EPA that they rarely need to rely on records beyond the two-year timeframe.

EPA notes that this recordkeeping requirement does not necessarily impose a duplicative burden on agricultural employers to obtain pesticide application information and SDSs twice – once to satisfy the central display requirement and once to satisfy the recordkeeping requirement. Agricultural employers may satisfy this recordkeeping requirement by the removal of the pesticide application information and SDS from the central display 31 days from the expiration of the REI (or from the end of the pesticide application if there is no REI) and retaining those records for two years from the date of application. EPA recognizes that some employers may choose to maintain electronic copies of pesticide application records and the product SDS. The WPS does not specify that records must be kept on paper, so an employer can maintain records electronically as long as the employer satisfies all related requirements of the WPS, such as being able to quickly access the materials in the event of a pesticide emergency.

F. Costs and Benefits.

1. Costs. EPA estimates the cost for these final hazard communication requirements, implemented together, to be \$7.3 million annually, or approximately \$20 annually per establishment. The cost of the hazard communication requirements differs from the proposed requirements because EPA is maintaining and revising the existing central display requirement, allowing the agricultural employer to display information after the application negating the need to update information later, and requiring the agricultural employer to display and keep records

1787 of the pesticide application information and SDS but not the labeling.

1788 The final hazard communications provisions address workers' and handlers' need for
1789 information both about the pesticides to which they may have been exposed, and their potential
1790 health consequences. The information will be accessible on the establishment to workers and
1791 handlers with no need for requests to the employer or intermediaries for 30 days after the
1792 expiration of the REI, and available upon request thereafter for 2 years from the date of
1793 application. The application record will contain the REI and the location of the treated area, so
1794 workers and handlers may refer to it to identify and avoid areas on the establishment that may
1795 pose risks; the additional information describing the location of the application and the end date
1796 is also useful for determination of compliance. Retention of the record of application for two
1797 years supports the needs of enforcement to access the information, and would allow for follow
1798 up if delayed health impacts warrant.

1799 In response to many concerns about the burden of posting accurate information about the
1800 application before the application starts, EPA has revised the requirement. The applicator must,
1801 within two hours after the application ends, provide any changed information about the
1802 application to the agricultural employer. The agricultural employer must then post the accurate
1803 application information and SDSs no longer than 24 hours after the end of the application. The
1804 information will be accurate for the employees' use and will reduce burden on the employer by
1805 eliminating the need for updates.

1806 EPA was convinced by comments that posting the pesticide labeling was unduly
1807 burdensome and has removed that requirement.

1808 2. *Benefits.* Although EPA cannot quantify benefits specific to any of these requirements,
1809 the qualitative benefits from workers' and handlers' ready access to information about areas

under an REI, pesticides in use, and potential health impacts from those pesticides convinced EPA to adopt these requirements. An advantage of maintaining and expanding the existing requirement to provide information at a central location is that workers and handlers are already familiar with where the central display requirement and agricultural employers are accustomed to displaying the information. Retaining application records and SDSs will help with verifying compliance. A 2-year record retention period may be especially useful for medical professionals when the consequences of pesticide exposure may not be immediately obvious.

VIII. Information Exchange Between Handler and Agricultural Employers

1. Current rule and proposal. The existing WPS requires handler and agricultural employers to exchange information about pesticide applications. When handlers are employed by an employer other than the agricultural employer, the existing WPS requires the agricultural employer to provide the handler employer with information about treated areas on the agricultural establishment the handler may be in (or may walk within one-quarter mile of), including specific location and description of any such areas and restrictions on entering those areas. The existing WPS requires handler employers to provide agricultural employers with the following information prior to making a pesticide application on the agricultural establishment:

- Location and description of the area to be treated.
- Time and date of application.
- Product name, active ingredient(s), and EPA registration number for the product.
- REI for pesticide(s) applied.
- Whether posted notification, oral notification, or both are required.
- Any other product-specific requirements on the product labeling concerning protection of workers or other persons during or after application.

1833 The agricultural employer must display this information for workers and handlers
1834 employed by the establishment at the central location. The current WPS requires handler
1835 employers to inform agricultural employers before the application takes place when there will be
1836 changes to scheduled pesticide applications, such as changes to scheduled pesticide application
1837 times, locations, and subsequent REIs.

1838 In addition to maintaining the current requirements, EPA proposed to require the
1839 agricultural employer to also provide to the handler employer information about the location of
1840 “entry-restricted areas” on the establishment. EPA also proposed to require the handler employer
1841 to communicate to the agricultural employer the start and end times of pesticide applications and
1842 the end date of the REI. EPA also proposed to relax existing WPS requirements by requiring
1843 handler employers to provide information about any changes to pesticide application plans to the
1844 agricultural employer within two hours of the end of the application rather than before the
1845 application. Changes to the estimated application end time of less than one hour would not
1846 require notification.

1847 Finally, in the proposal, EPA unintentionally omitted the provision in the existing WPS
1848 that the agricultural employer need not provide information to the handler employer about
1849 treated areas if the handler will not be in or walk within one-quarter mile of those treated areas.

1850 2. *Final Rule.* Information exchange from agricultural employer to handler employer. The
1851 final rule requires the agricultural employer to notify the handler employer of any treated areas
1852 where an REI is in effect and any restrictions on entering those areas. EPA has not included in
1853 the final rule a requirement for the agricultural employer to communicate to the handler
1854 employer information about the location of “entry-restricted areas” on the establishment because
1855 of the changes to the entry-restricted areas, as discussed in Unit IX.B. EPA has also revised the

1856 final rule to correct the unintentional omission of the existing rule's exception that the
1857 agricultural employer need not provide information to the commercial handler employer about
1858 treated areas if the handler will not be in, or walk within one-quarter mile of those areas. The
1859 final regulatory text for these requirements is available at 40 CFR 170.309(k).

1860 Information exchange from handler employer to agricultural employer. EPA has finalized
1861 the proposal to expand and clarify the information the pesticide handler employer must provide
1862 to the agricultural employer with minor modifications. The final rule does not require the handler
1863 employer to convey the end date of the REI to the agricultural employer. The final regulatory
1864 text for these requirements is available at 40 CFR 170.313(i).

1865 Timing of exchange of information from handler employer to agricultural employer. EPA
1866 has modified the final rule to specify those situations where the handler employer must notify the
1867 agricultural employer of changes to the application information before the application takes
1868 place. EPA has also modified the rule to specify the timing for notifying agricultural employers
1869 if the notification is not required before the application. The final regulatory text for these
1870 requirements is available at 40 CFR 170.313(j).

1871 *3. Comments and responses.*

1872 Comments. Many states and a few farmworker advocacy organizations expressed general
1873 support for the proposal to expand the information to be exchanged. These commenters agreed
1874 the additional information would help agricultural employers protect workers, reduce pesticide-
1875 related illnesses and exposure from drift during applications. Many farm bureaus, states,
1876 applicators and applicator associations and an agricultural organization generally disagreed with
1877 the proposed expansion. Some of these commenters argued that the proposed requirements are
1878 unrealistic and impractical given the dynamics and unpredictable factors involved in a farming

operation, such as pest infestations and weather changes. In addition, they argued that the proposal would require multiple parties to exchange information, resulting in the potential for miscommunication. Some commenters also opposed the proposed expansion of information exchange because EPA did not provide documented justification. Crop consultants, an applicator association and a farm bureau indicated the proposal is unnecessary because close coordination of information already exists between applicators, handlers, crop consultants, and growers. Furthermore, they stated that not only are handlers already required to keep workers out of areas during applications, applications are often scheduled to take place when workers are absent. A few states, farm bureaus and a crop consultant opposed EPA's proposal to add to the information the agricultural employer is required to give the handler employer. One crop consultant indicated the information is already on purchase orders or sales agreements between growers and commercial handlers or their employers. One state requested that EPA omit the application start time because it is not used to calculate the REI.

EPA's proposal on the timing to provide notice of a change in application plans elicited many comments. EPA proposed that this notice be provided within 2 hours of the end of the application, unless the only change was a difference of less than 1 hour between scheduled and actual application times. One state and several farmworker advocacy organizations endorsed the requirement because of the ease of providing the information in the timeframe by relying on existing electronic capabilities. One farmworker advocacy organization urged EPA to require that changes be communicated before the start of the application in order to enable employers to be able to keep workers out of the treated area.

To prevent confusion about scheduled and actual start and end times and to avoid miscommunication, one state suggested that EPA require the handler employer to inform the

agricultural employer of changes at any time on the application day. Two aerial applicators explained that a two-hour window for notification of change sounds reasonable on paper, but not in practice. During long workdays of the busy season, applicators would have to make phone calls in the middle of the night and send text messages, usually from the airplane during or in between applications. Also, it can take more than one day to complete an application because of factors such as the weather, a change in wind direction, or verifying the presence of bystanders. These situations could require the handler to give several updates to multiple parties, resulting in a greater chance for errors and noncompliance.

One commenter requested that EPA require notification of a change within 24 hours from the end of the actual application, while another advised EPA to require notification if the actual application completion time is two or more hours later than the scheduled application time. Several farm bureaus, a pesticide applicator and a crop consultant organization advised EPA to require that changes in application plans be communicated: Before the scheduled date and times, if the application is going to be made earlier than expected, or before the end of the REI as scheduled, if the application is made later than expected. One aerial applicator stated that if an REI is greater than 24 hours, EPA should require an information update before the scheduled REI expires or within 24 hours of the scheduled application time. Another aerial applicator recommended the handler employer and handler give the agricultural employer a window of estimated start and completion date(s) and time(s). In this situation, the handler would not make the application outside of that window without the approval of the agricultural employer, who in turn must keep workers out of the area during that time, unless notified of a change in the application start and completion date(s) and time(s).

Many commenters noted the absence of the existing provision that the agricultural

1925 employer need not provide information to the commercial handler employer if the handler will
1926 not be in or walk within one-quarter mile of an area that may be treated with a pesticide or under
1927 an REI, and noted this could result in the need to provide excessive, unnecessary information.

1928 EPA Response. The information exchange requirements ensure that agricultural
1929 employers and handler employers have the information they need to comply with the
1930 requirements for notifying workers and handlers of risks associated with pesticide applications
1931 and treated areas (i.e., agricultural employers are required to notify workers of treated areas and
1932 display pesticide application and hazard information at the central location on the establishment
1933 for workers and handlers to see, and handler employers must inform their handler employees of
1934 treated areas on the agricultural establishment near where they work).

1935 EPA has been convinced not to adopt the proposed change to expand the information
1936 required to be communicated by the agricultural employer to the handler employer to include
1937 information about the location of “entry-restricted areas” on the establishment. Requiring
1938 employers to exchange this information would not be practical given other changes in the rule
1939 related to the “entry-restricted areas” (replaced by “application exclusion zones” in the final rule)
1940 that make the tracking of such areas infeasible. EPA also agrees that it is not necessary for the
1941 handler employer to calculate the end time of the REI for each application and include it in the
1942 information conveyed to the agricultural employer. The requirement to provide this piece of
1943 information has been deleted from the final rule.

1944 Most of the other information required to be exchanged by the final rule is already
1945 required to be exchanged by the existing rule, and therefore EPA does not agree that this
1946 requirement presents a substantially increased or unreasonable burden. Agricultural and handler
1947 employers are currently required to exchange information so agricultural employers may provide

notification of application and treated areas under an REI to workers and handlers. Without this information transfer, accurate and timely notification would be difficult to achieve, exposing workers and handlers to potential exposure to pesticides. It is critical that the agricultural employer know the start times of applications in order to be able to notify workers and handlers (when they are on the establishment) so they may avoid treated areas. EPA recognizes that exchange of the expanded information may already occur on some establishments and expects those entities to experience less burden than in situations where such coordination has not already developed.

EPA recognizes that much of the information required may be available on sales agreements and purchase orders between commercial pesticide handlers and agricultural employers, which will reduce the burden for employers to gather it; however, without inclusion of the information exchange requirements in the WPS there is no assurance of timely exchange of all of the necessary information.

EPA considered the range of options suggested for the timing of the information exchange. Several of the recommendations for notification of application changes from the commercial pesticide handler employer to the agricultural employer can be accommodated under the final rule. For example, the applicator and agricultural employer can agree on a window of the estimated start and end times, with the understanding that the application would be made during that period, unless the two communicate and agree to a different timeframe. This would allow the agricultural employer to notify workers of the treatment, keep them from the area, and create and post the application information, satisfying the requirement.

EPA did not identify any suggestions from commenters, apart from those that would be covered by the final rule, that would meet the needs for agricultural employers to provide

employees notification of the application and inform them of treated areas under an REI, and to record and display the pesticide application information. Agricultural employers must have information about the start time of the application before it begins to ensure they have the ability to notify workers of the application before it commences. Agricultural employers must have the end time of the application to notify workers that although the application has ended, entry to the treated area remains prohibited because an REI is in effect. Without these details being provided prior to the application, agricultural employers are not able to fulfill their responsibilities to protect workers.

EPA notes that the method for notification of changes to application information should be agreed upon between the handler employer and the agricultural employer to ensure receipt, and can be accomplished through electronic media, telephone, or other means. The agricultural employer must receive the information in sufficient time to record and display the information for workers and handlers.

4. Costs and benefits. EPA has estimated the cost of the information exchange requirements to be negligible because the existing rule already requires handler employers and agricultural employers to collect and exchange information. The changes in the final rule are minor and offer flexibility for employers. The information the agricultural employer must give the handler employer has been clarified. EPA has made minor changes to the information the handler employer must give the agricultural employer. The timing to notify the agricultural employer of most changes to the information has remained the same as the existing regulation, i.e., before the application begins. In the final rule, two exceptions provide the handler employer flexibility. If the product changes or the application is made after it was scheduled, the handler employer must notify the agricultural employer within two hours of the end of the application. If

the only change was a difference of less than one hour between the scheduled and actual application times, notification is not required.

EPA expects these changes will ensure that the agricultural employer provides workers and handlers with accurate application information, which was problematic under the existing rule, and maintains accurate application records. The information exchanged and the timing of notification of changes of actual applications from scheduled applications remains essentially unchanged. Although notification can be given after the fact if a different pesticide product is applied or the application is completed after it was scheduled, this change does not negatively affect the protections of workers, handlers and others. The agricultural employer will still have the essential information needed to know when and where to keep workers, handlers and others out of areas to be treated. The cost of including additional details is reasonable compared to the improved ability of workers and handlers to identify areas where pesticides are being applied or have recently been applied.

IX. Drift-Related Requirements

The requirements discussed in this section are intended to decrease the number of incidents in which workers and other persons are exposed to pesticides through unintentional contact during application. Drift is the off-site movement through the air of pesticide droplets or particles originating from pesticides applied as liquids or dry materials. Workers errantly in the area being treated may be directly exposed to pesticides during application. Alternatively, bystanders (both workers and non-workers) located outside a treated area may be exposed when pesticide droplets or particles move outside the area being treated through the air during and/or immediately after the pesticide application. As used here, the term “drift” does not include off-site movement of pesticide-imbedded soil-borne particles by wind or vapor drift through

2017 volatilization of applied pesticide, although these may be categorized in studies as “drift”
2018 incidents. EPA has developed methodologies for assessing the risks to bystanders from exposure
2019 to pesticides from drift and also from volatilization, and addresses risks of concern and other
2020 issues via the registration review process. The purpose of the requirements discussed in this
2021 section is to prevent workers and other persons from being exposed to pesticides by unintentional
2022 contact during application. The term “drift” in the title of this section is used as shorthand to
2023 cover unintentional exposure from both direct exposures to workers in the area being treated and
2024 drift exposures to workers and bystanders.

2025 *A. Overarching Performance Standard*

2026 *1. Current rule and proposal.* The existing WPS includes two related requirements that
2027 prohibit a pesticide from being applied in a way that contacts workers or other persons.
2028 Agricultural products subject to the WPS must have this statement on the label: “Do not apply
2029 this product in a way that will contact workers or other persons, either directly or through drift.
2030 Only protected handlers may be in the area during application.” 40 CFR 156.206(a). Also, the
2031 existing WPS requires the handler employer and the handler to assure that no pesticide is applied
2032 so as to contact, either directly or through drift, any worker or other person, other than an
2033 appropriately trained and equipped handler. These requirements prohibit application in a way
2034 that contacts workers or other persons both on and off the agricultural establishment where the
2035 pesticide is being applied.

2036 EPA did not propose any changes to the label statement. EPA proposed several minor
2037 wording changes to the WPS requirement for the handler employer and the handler, but the
2038 impact of the proposed requirement would be the same as under the existing WPS.

2039 *2. Final rule.* EPA has finalized the proposed changes to the requirement for the handler

employer and handler with a minor change. The final rule changes the language from the proposed “handler located on the establishment” to “handler involved in the application.” As with the existing rule, the final rule prohibits contact to workers and other persons regardless of whether or not they are on the agricultural establishment. The final regulatory text for this requirement is available at 40 CFR 170.505(a). There are no changes to the label statement at 40 CFR 156.206(a).

3. Comments and responses.

Comments. Many commenters, including states and their organizations, grower associations, farm bureaus and pesticide manufacturer associations, stated that the existing two requirements adequately protect workers and bystanders from exposure during applications. These commenters opposed the other drift-related requirements that EPA proposed (entry-restricted areas for farms and forests and the requirement to suspend applications under certain conditions) as unnecessary, asserting the proposed requirements do not provide any additional protection.

Many respondents from states and their organizations, grower associations, farm bureaus and pesticide manufacturer associations commented that EPA’s risk assessments and pesticide labels include conservative protections for applicators, handlers, workers and bystanders. Some of these commenters argued that the restrictions on the labels, including REIs and pesticide-specific buffers, provide sufficient protection to workers and bystanders.

Many respondents from all commenter types commented on incidents where workers or bystanders reported being contacted by pesticides that were being applied. Some of these incidents involve workers in the areas where pesticides were applied and other incidents involve workers or bystanders being exposed to pesticides that drifted off the target site. Many of the

commenters cited three broad studies that looked at data from SENSOR-Pesticides and California's Pesticide Illness Surveillance Program. (9) (10) (11) Other commenters cited specific incidents of exposure from drift or workers in the area being treated being sprayed directly. Some applicator and pesticide manufacturer associations cited state data showing that there has been a decrease in drift complaints over time, dropping from an average of 333 complaints per year nationwide (from 1996 through 1998) to an average of 247 complaints per year (from 2002 through 2004).

EPA response. EPA disagrees with the assertion that the "do not contact" requirements, along with the other protections on pesticide labels, are by themselves sufficient to protect workers and bystanders from being directly contacted by pesticides that are applied. First, many commenters cited incidents where people were directly exposed to pesticide applications, even if there was disagreement about how regularly these types of incidents happen. Second, EPA's risk assessments and registration decisions are based on the premise that the WPS protections effectively prevent people (workers and bystanders) from being sprayed directly. (12). In other words, incidents where workers or bystanders are sprayed directly result in people being exposed to pesticides in a way that is not considered in EPA's risk assessments or registration decisions. These types of incidents are misuse violations but they continue to occur, as described in the following sections. Therefore, there is a need to supplement the existing WPS protections to reduce exposures to workers and other persons from being directly sprayed with pesticides.

There is no one solution that can prevent all drift incidents and it will take a comprehensive approach, including additional regulatory requirements, education, outreach, and some common-sense voluntary measures to further reduce the number of people who are directly exposed to pesticide spray/applications. The additional regulatory requirements include revised

requirements for entry restrictions during pesticide applications and for handlers to suspend applications in certain circumstances. Common-sense voluntary measures include a grower talking to his/her neighbors to let them know when pesticides are being applied so the neighbors can keep workers and others away from the boundary of adjacent establishments during that time, and participating in voluntary communication programs such as Spray Safe (<http://www.spraysafe.org/>) and Drift Watch (<https://driftwatch.org/>). EPA will include information about good management practices as well as the regulatory requirements during outreach for implementation of the final rule. It is also worth noting that EPA is working to assess and mitigate any product-specific risks from exposure to pesticides from drift and from volatilization within the registration review process.

B. Entry Restrictions to Protect Workers and Other Persons During Application

1. Current rule and proposal. The existing WPS establishes entry-restricted areas adjacent to treated areas that apply during pesticide application for nurseries and greenhouses only. The existing rule requires that the agricultural employer must not allow or direct any person, other than an appropriately trained and equipped handler, to enter or remain in the entry-restricted area during a pesticide application in a nursery or greenhouse. The size of the entry-restricted area depends on the type of product applied and the application method. The entry restrictions for greenhouses also include ventilation requirements. The existing entry restriction requirement applies only within the boundaries of the agricultural establishment. The existing provisions at 40 CFR 170.110 regarding entering entry-restricted areas during application are different than the existing provisions at 40 CFR 170.112 regarding entry into treated areas after the application of a pesticide and before the REI specified on the pesticide labeling has expired.

EPA proposed to establish entry-restricted areas during pesticide applications on farms

and in forests, while slightly modifying the requirement for entry-restricted areas for nurseries and greenhouses. EPA proposed two types of entry restrictions: One for enclosed space production, which would apply to greenhouses and other types of indoor production operations (e.g., mushroom houses, hoop houses, polyhouses), and one for outdoor production, which would apply to farms, forests and nurseries. In addition, EPA proposed to define the entry-restricted area as the area from which workers or other persons must be excluded during and after the pesticide application.

2. *Final rule.* In regard to enclosed space production (i.e., greenhouses, mushroom houses, hoop houses), EPA has finalized the requirements for entry restrictions during pesticide applications with several minor changes. For the most part, the final rule incorporates the existing entry restriction and ventilation requirements for greenhouses as the requirements for enclosed space production. The final rule deletes the term “entry-restricted area” and adjusts the descriptions of the application types to be consistent with the changes to the description of application exclusion zones for outdoor production. In addition, EPA changed the definition of “enclosed space production” to clarify that it applies only to areas with non-porous covering, so shade houses, which are structures with a roof made of fencing or fabric to provide shade on plants (no walls), are not considered enclosed spaces under the final rule. See the discussion of definitions in Unit XVIII.C. of this Notice for more information about the changes to this definition.

In regard to outdoor production (e.g., farms, forests, nurseries, shade houses), the final rule differs substantially from EPA’s proposed requirements. The final rule makes the following changes from the proposal:

- Replacing the phrase “entry-restricted area” with “application exclusion zone” to make

it more distinct from the requirements regarding REIs. The final regulatory text for this requirement is available at 40 CFR 170.405(a).

- Revising the corresponding definition to clarify that the application exclusion zone exists only during (not after) a pesticide application. The final regulatory text for this definition is available at 40 CFR 170.305.

- Revising the corresponding definition and regulatory description of an application exclusion zone so it is a specified distance from the application equipment rather than from the edge of the treated area, and clarifying that the application exclusion zone moves with the application equipment. The final regulatory text for this requirement is available at 40 CFR 170.405(a)(1).

- Revising some of the application methods in the description of the application exclusion zone to reflect current application methods and to differentiate the distances based on the spray droplet size rather than pressure. The final regulatory text for this requirement is available at 40 CFR 170.405(a)(1).

- Adding a provision to the regulatory text to clarify that any labeling restrictions supersede the requirements of the WPS, including those related to application exclusion zones. This was discussed in the preamble of the proposed rule (79 FR 15444, 15490, March 19, 2014) but was inadvertently left out of the proposed regulatory text. The final regulatory text for this requirement is available at 40 CFR 170.303(c) and 170.317(a).

3. Comments and responses.

Comments – supporting the proposal or more stringent measures. Many commenters, including farmworker advocacy organizations, public health organizations, and a state, generally supported the proposed requirement for entry-restricted areas. The commenters stated that the

2155 proposed change should provide modest improvements in protecting workers from pesticide drift
2156 during application if there is enough training and education of applicators. One farmworker
2157 advocacy organization described an incident where workers were in a field topping tobacco at
2158 the same time a plant growth regulator with a 24-hour REI was being applied to the adjacent
2159 row. The workers were close enough to have to move out of the path of the tractor. However,
2160 because the treated area was defined to be only the rows being treated, this was permissible
2161 under the existing WPS. Many commenters provided other examples of incidents where workers
2162 were unintentionally exposed directly to the pesticide spray. A few farmworker advocacy
2163 organizations commented that many workers say that they have felt the spray of pesticides from
2164 fields close to where they work. A farmworker advocacy organization commented that in 2012,
2165 about 20% of farmworkers in New Mexico reported to the organization that pesticides were
2166 applied to the fields at the same time that they were working. Another farmworker advocacy
2167 organization stated that about half of the child tobacco workers interviewed by the organization
2168 in 2013 reported that they saw tractors spraying pesticides in the fields in or adjacent to the ones
2169 where they were working.

2170 Many farmworker advocacy organizations and several public health organizations argued
2171 that EPA should revise the approach for entry restrictions to protect workers on neighboring
2172 property and to increase the length of the entry-restricted area. The recommended distances
2173 ranged from 60 to 200 feet for ground application and 300 feet to a mile or more for aerial
2174 application. EPA responded to some of these suggestions in its response to “Pesticides in the Air
2175 – Kids at Risk: Petition to Protect Children from Pesticide Drift (2009).” (12)

2176 Comments – opposing the proposal. Many states and their organizations, grower
2177 organizations, farm bureaus, applicator organizations, agricultural producer organizations and

2178 pesticide manufacturer organizations opposed the proposed requirement to extend entry-
2179 restricted areas to farms and forests. Most of these commenters argued that the approach is too
2180 complicated because it establishes another area to be controlled that varies by application type,
2181 may include persons other than those employed by the agricultural establishment and may be
2182 different than label restrictions. (Note: Some of the comments appear to reflect a
2183 misunderstanding of the proposal, i.e., that the entry-restricted areas would be “buffer zones”
2184 that would remain in effect after the application was complete.) Some states and their
2185 organizations commented that the requirement to keep individuals out of varying widths of areas
2186 surrounding treated areas would be difficult for an agricultural employer to implement and even
2187 more difficult for a state to enforce.

2188 Most of these commenters explained that the proposed requirement to extend entry-
2189 restricted areas to farms and forests would present some logistical issues that could effectively
2190 shut down parts of the establishment. For example, many ground and aerial pesticide
2191 applications occur along rural roads or near access points to the agricultural establishment. These
2192 roads and access points would be within the proposed entry-restricted areas. On larger fields,
2193 pesticide applications could take several hours to complete. Prohibiting workers from using these
2194 roads or gaining access to farm buildings for long periods of time is impractical and could have
2195 an adverse economic impact. Many of the commenters stated that EPA did not account for the
2196 cost of stopping business during some pesticide applications. As an example, one grower
2197 organization opposed the “worker buffers” because they could take a lot of area out of
2198 cultivation on smaller farms, farms with widely varied crop maturities and farms that are not laid
2199 out in large blocks. Instead of arbitrary buffers, this commenter argued to keep the standard as it
2200 is - do not apply where workers are present and do not allow spray (or drift) to contact workers.

2201 Comments on application types and distances. Some commenters addressed the specific
2202 application methods and the distances of 100 feet and 25 feet in the proposed entry-restricted
2203 areas. Some states, grower organizations, agricultural organizations and pesticide manufacturer
2204 organizations commented that the distances of 25 to 100 feet are not supported by drift reduction
2205 technologies, applicator standard operating procedures or incident data. A state commented that
2206 the table of application methods and distances is flawed because it does not account for all
2207 application scenarios and does not logically apply distances.

2208 EPA Response. Based on the comments, EPA has made some changes in the final rule
2209 from the proposed requirement to extend entry-restricted areas to farms and forests. However,
2210 experiences such as those of workers having to move to get out of the way of the tractor that was
2211 applying pesticide and workers being directly sprayed confirm EPA's position that additional
2212 protections are necessary during pesticide applications on farms and in forests. The existing WPS
2213 prohibits a farm or forest agricultural employer from allowing or directing any worker to enter or
2214 remain in a treated area, which is defined to include areas being treated. The existing regulations
2215 require oral notifications before pesticide applications to include the location and description of
2216 the treated area, the time during which entry is restricted and instructions not to enter the treated
2217 area until the REI has expired. The existing regulations require handler employers to ensure that
2218 pesticides are applied in a manner that will not contact a worker either directly or through drift.
2219 Inasmuch as these requirements – clearly intended to prevent direct exposure of workers during
2220 pesticide applications – have proven insufficient for that purpose, additional measures are
2221 needed.

2222 EPA has changed the final rule in several ways to address some of the concerns
2223 expressed in the comments about the logistical problems with the proposal. First, in the final rule

EPA replaced the term “entry-restricted area” with “application exclusion zone,” which more clearly associates this restriction with the period during the pesticide application. This new term is also less likely to be confused with the term “restricted-entry interval.” Second, EPA revised the requirements for the application exclusion zone so they do not refer to the “treated area,” but instead to the application equipment. Third, EPA revised the application exclusion zone requirement by expressing it in terms of a specified distance from the application equipment rather than from the edge of the treated area. The application exclusion zone is essentially a horizontal circle surrounding the application equipment that moves with the application equipment. For example, if a pesticide is applied aerially, the border of the application exclusion zone is a horizontal circle that extends 100 feet from the place on the ground directly below the aircraft, and moves with the aircraft as the application proceeds.

Because the application exclusion zone is based on the location of the application equipment, rather than the location of the treated area, the application exclusion zone could extend beyond the boundary of the agricultural establishment. However, in 40 CFR 170.405(a)(2), the final rule limits the requirement for the agricultural employer to keep workers and other persons out of the treated area or the application exclusion zone during application to areas that are within the boundaries of the agricultural establishment, as proposed. The existing entry-restricted area requirement for nurseries is also limited to areas that are within the boundaries of the agricultural establishment. EPA retained the existing and proposed limitation because this requirement applies to the agricultural employer. The agricultural employer can control what happens on the agricultural establishment but could have difficulty limiting access to roads or fields that are beyond his property.

The comments reflected a general lack of understanding that the proposed entry-restricted